



TETRA TECH

October 28, 2019

Mr. Ben Franco
On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4
61 Forsyth Street, SW
Atlanta, Georgia 30303

Subject: **Emergency Response Letter Report**
DHM Adhesives Fire
Calhoun, Gordon County, Georgia
Contract Number: EP-S4-14-03
TDD Number: TT-01-132

Dear Mr. Franco:

The Tetra Tech, Inc. (Tetra Tech) Superfund Technical Assessment and Response Team (START) submits this report summarizing emergency response activities on September 13, 2019, at the DHM Adhesives, Inc. (DHM) plant at 509 South Wall Street in Calhoun, Gordon County, Georgia (the site) (see Figure 1 in Enclosure 1). This report includes five enclosures and one attachment. Enclosure 1 contains figures illustrating the site location, site layout, and air monitoring and surface water sampling locations. Enclosure 2 contains Viper air monitoring summary tables and surface water sample summary tables. Enclosure 3 contains a photographic log of response activities. Enclosure 4 contains a copy of START logbook notes. Enclosure 5 contains the Tetra Tech Stage 2A data validation report. Attachment 1 contains the laboratory analytical data package and air monitoring data files.

BACKGROUND

On September 13, 2019, at 0700 hours, Georgia Environmental Protection Division (GAEPD) contacted Region 4 U.S. Environmental Protection Agency (EPA) to request air monitoring assistance regarding a fire at the DHM plant at the site. Geographic coordinates at the site are 34.4921689 degrees north and -84.9496070 degrees west. Although facility staff considered the adhesive materials nonhazardous, and so informed GAEPD, GAEPD was concerned about the effects of black smoke generated by the fire on nearby commercial businesses and residences. EPA mobilized On-Scene Coordinator (OSC) Benjamin Franco and Tetra Tech START to the site to conduct air monitoring and assess potential environmental impacts.

The site includes an adhesive manufacturing facility that produces hot melt adhesives for the corrugated packaging, bedding, furniture, automotive, food, mailing, carpet, and bookbinding industries. The facility was divided into the following areas: an area receiving adhesives as raw materials, a manufacturing area where the materials are repackaged into products of varying sizes for commercial use, a warehouse storage area, and an office area. Commercial businesses in the proximity of the smoke are directly northeast, south, southwest, and west of the site, while residences are south, southwest, and northwest of the site. The Calhoun Middle School and Calhoun High School are approximately 2,700 feet northwest of the site. Figure 2 in Enclosure 1 depicts the site layout and surrounding area.

RESPONSE ACTIVITIES – AIR MONITORING

On the morning of September 13, 2019, EPA and Tetra Tech START arrived on site. EPA coordinated with the City of Calhoun Fire Department (CFD) Fire Chief and GAEPD concerning firefighting activities and possible impact(s) of smoke on the surrounding area. At the time of EPA's and Tetra Tech START's arrival, CFD had extinguished most of the fire and was extinguishing localized hot spots within the facility. EPA tasked Tetra Tech START to conduct air monitoring at residential cluster homes named Hastings Scoggins Homes (Location 1) approximately 300 feet southwest of the property, and at Calhoun Middle School (Location 2) approximately 2,700 feet northwest of the property (see Figure 3 in Enclosure 1).

On September 13, 2019, Tetra Tech START deployed EPA's telemetry system, Viper—a wireless, network-based communications system designed to enable real-time transmission of data from field sensors to a host computer, which allows remote data viewing via the deployment manager website. From 1147 to 1932 hours, Tetra Tech START conducted stationary air monitoring at Locations 1 and 2. Tetra Tech START monitored airborne concentrations of total volatile organic compounds (VOC), hydrogen cyanide (HCN), hydrogen sulfide (H₂S), oxygen (O₂), and the lower explosive limit (LEL) using a Honeywell AreaRAE Steels (AreaRAE) Multi-Gas Monitor, and monitored phosgene (COCl₂) concentrations using a Honeywell Single Point Monitor Flex Chemcassette Tape-Based Gas Detector (SPM Flex) (see Table 1 in Enclosure 2).

Tetra Tech START compared ambient air quality readings for total VOCs, HCN, and H₂S to EPA Acute Exposure Guideline Levels (AEGL), Table 3 – Chemical Plant (Fire), Level 1 (AEGL-1), 8-Hour, action levels, 2012. Those AEGLs apply to accidental releases of chemicals into the air, are expressed as concentrations of airborne chemicals at which health effects may occur, and are designed to protect the elderly, children, and any other individuals susceptible to exposure. A Level 1 airborne concentration of a substance is a benchmark, above which the general population, including susceptible individuals, could experience notable discomfort, irritation, or certain asymptomatic non-sensory effects. Of note, anticipated Level 1 effects are not disabling, are transient, and reversible upon cessation of exposure. Results of air monitoring at Locations 1 and 2 were as follows (see Table 1 in Enclosure 2):

- Concentrations of total VOCs ranged from 0 to 2 parts per million (ppm), but average concentration over the period of monitoring remained below the AEGL-1.
- Concentrations of HCN and H₂S were below their AEGL-1's.

Tetra Tech START compared ambient air quality readings for COCl₂ to the EPA AEGL, Table 3 – Chemical Plant (Fire), Level 2 (AEGL-2), 8-Hour, action level, 2012. Table 3 does not reference a Level 1 value for COCl₂, but it does reference the more conservative Level 2 value—airborne concentration of a substance above which the general population, including susceptible individuals, could experience irreversible or other serious, long-lasting adverse health effects or impaired ability to escape. Air monitoring at Locations 1 and 2 throughout the monitoring period did not detect COCl₂ concentration above the instrument's level of detection of 2 parts per billion (see Table 1 in Enclosure 2).

Tetra Tech START compared ambient air quality readings for O₂ and LEL to U.S. Department of Labor (DOL), Occupational Safety and Health Administration (OSHA), 29 *Code of Federal Regulations* (CFR), 1910.146, Permit-required Confined Spaces (29 CFR 1910.146). Air monitoring results for O₂ and LEL met the requirements of 29 CFR 1910.146.

On the afternoon of September 13, 2019, EPA tasked Tetra Tech START to conduct stationary particulate air monitoring at Location 1 and near the residential area on the northern side of the DHM Adhesives property (Location 3) (see Figure 3 in Enclosure 1). From 1510 to 1735 hours, at Locations 1 and 3, Tetra



Tech START monitored atmospheric particulate matter with a diameter of less than 2.5 micrometers ($\text{PM}_{2.5}$) using the DustTrak DRX Aerosol Monitor 8533 (DustTrak).

Tetra Tech START compared particulate air monitoring readings for $\text{PM}_{2.5}$ to EPA Standard Operating Guidelines (SOG) # T106 – Particulate Monitoring Guide for Fires, Table 1 – Threshold Levels and Recommended Response Actions for $\text{PM}_{2.5}$, 1 Hr. Avg., 2017. Results of the particulate air monitoring were as follows (see Table 1 in Enclosure 2):

- $\text{PM}_{2.5}$ concentrations at Location 1 ranged from 24 to 88 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$), with a maximum 1-hour period average of $27 \mu\text{g}/\text{m}^3$, indicating an air quality rating of good. “Good” is defined as air quality considered satisfactory and air pollution posing little to no risk.
- $\text{PM}_{2.5}$ concentrations at Location 3 ranged from 0.433 $\mu\text{g}/\text{m}^3$, with a maximum 1-hour period average of $33.7 \mu\text{g}/\text{m}^3$, indicating an air quality rating of good.

RESPONSE ACTIVITIES – SURFACE WATER SAMPLING

On September 13, 2019, EPA tasked Tetra Tech START to collect surface water samples from a ditch southwest of the site, and from Oothkalooga Creek (see Figure 3 in Enclosure 1). Tetra Tech START collected three surface water samples at the following locations:

- Sample DHM-SW-01-091319 at firefighting runoff in the ditch along North Louise Avenue, approximately 890 feet southwest of the site
- Sample DHM-SW-02-091319 at Oothkalooga Creek in the southeastern portion of E. Farrell Palmer Memorial Park, downstream from the ditch outfall
- Sample DHM-SW-03-091319 at Oothkalooga Creek at the southeastern corner of Bristol Place Properties at 100 Dan Cheri Drive, upstream from the ditch outfall.

Surface water sampling accorded with EPA Region 4 Lab Services and Applied Sciences Divisions (LSASD) Operating Procedure, SESDPROC-201-R4, Surface Water Sampling, dated December 16, 2016.

Tetra Tech START procured a local laboratory, Analytical Environmental Services, Inc. (AES), in Atlanta, Georgia, for: (1) VOC analysis via Hazardous Waste Test Methods (SW-846), Method 8260D, *Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)*; and (2) semivolatile organic compound (SVOC) analysis via SW-846 Method 8270E, *Semivolatile Organic Compounds by GC/MS*. Laboratory analytical results indicated presence of the SVOCs acetone and 2-butanone. A summary of laboratory analytical results is in Table 2 of Enclosure 2.

On the evening of September 13, 2019, EPA concluded air monitoring activities because the property was no longer smoldering. The CFD remained on site for response to a possible small-fire flareup. Tetra Tech START collected the air monitoring equipment and demobilized from the site.



Mr. Franco
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If you have any questions or need additional copies of this report, please call me at (678) 775-3081.
Sincerely,



Paul E. Prys II
START IV Project Manager



Andrew F. Johnson
START IV Program Manager

Enclosures (5)
Attachment (1)

cc: Katrina Jones, EPA Project Officer
 Angel Reed, START IV Document Control Coordinator



ENCLOSURE I

FIGURES

(Four Pages)



1DD No. 11-01-132
DHF Adhesives Inc.

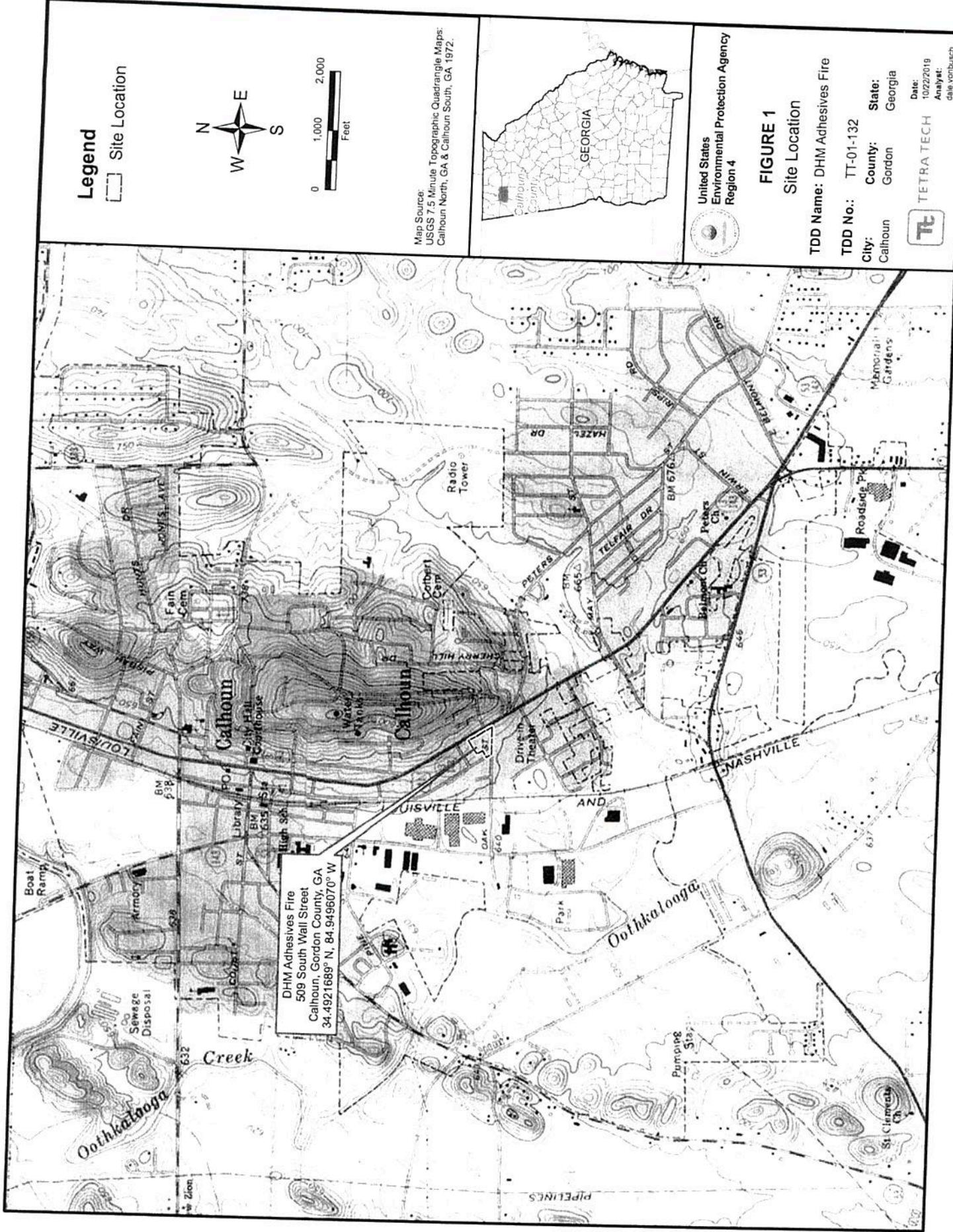


FIGURE 1

Site Location

TDD Name: DHM Adhesives Fire

TDD No.: T101100

City: County: State:

State: Georgia
County: Gordon
City: Calhoun

תעודת יישוב



TECH

File: C:\TT-01-132_DHM_Adhesives_Firelymxdsls\location\sound
dale.vonbusch

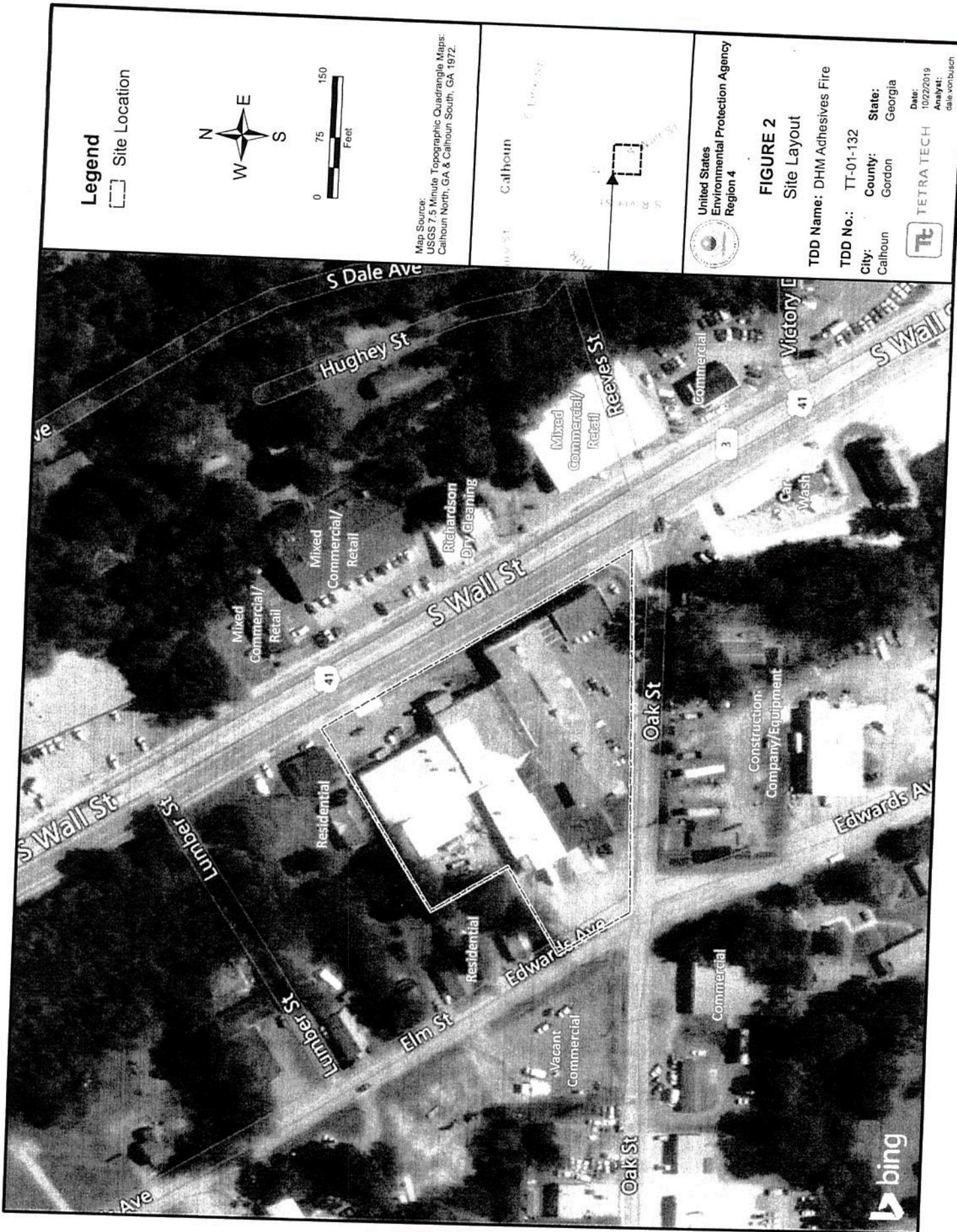


FIGURE 2
Site Layout

TDD Name: DHM Adhesives Fire
TDD No.: TT-01-132
City: Calhoun
County: Gordon
State: Georgia



Date: 10/22/2019
Analyst: date vonbusch
File: C:\TT-01-132_DHM_Adhesives_Fire\envsite_layout.mxd

Legend

- Air Monitoring
- Surface Water
- Approximate location of Oothkalooga Creek
- Site Location



Notes:
DHM - DHM Adhesives
SW - Surface Water
Map Source:
BING AERIAL IMAGERY, 2015.

United States
Environmental Protection Agency
Region 4

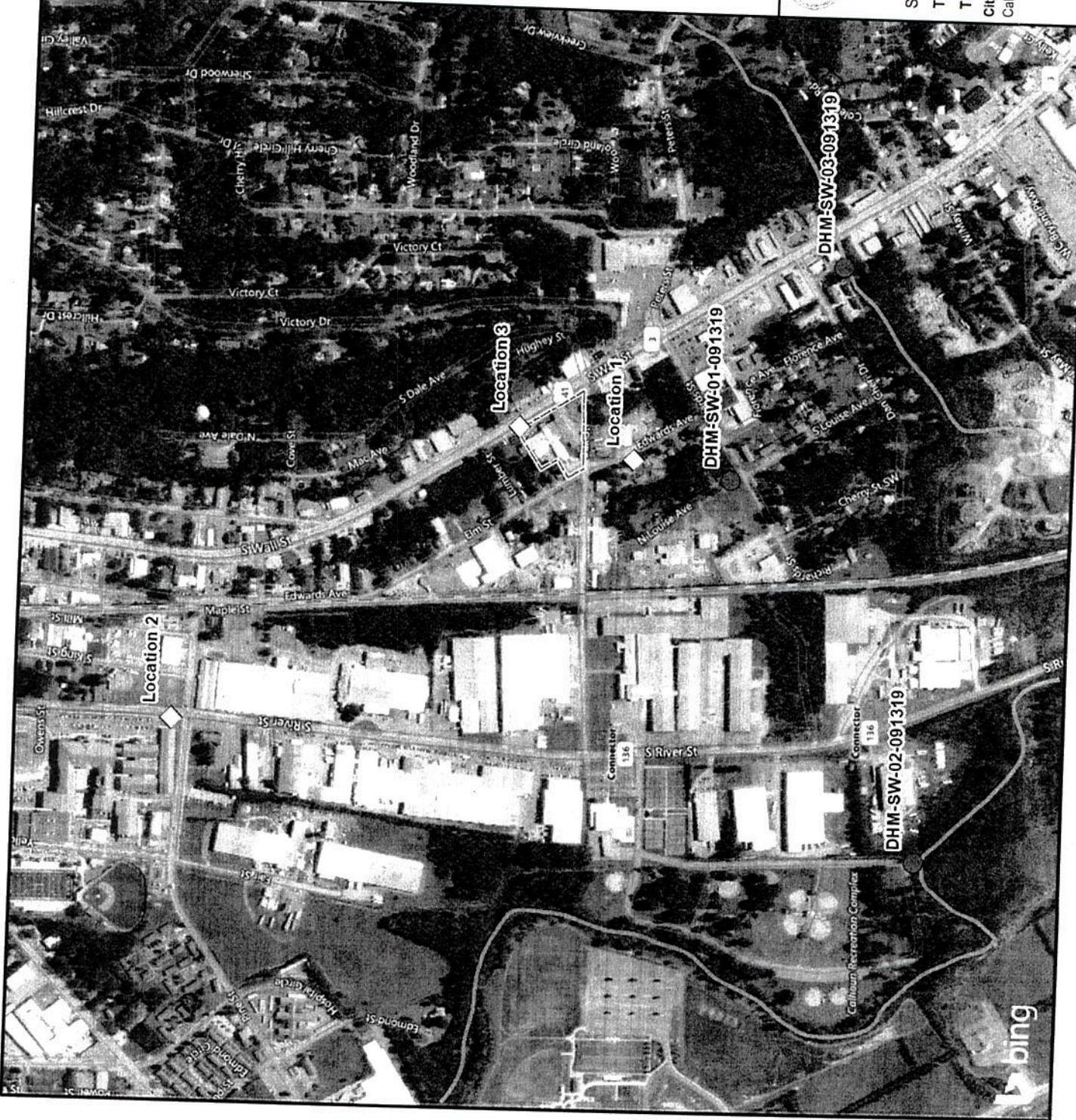
**FIGURE 3**

Air Monitoring and
Surface Water Sampling Locations

TDD Name: DHM Adhesives Fire
TDD No.: TT-01-132
City: Calhoun
County: Gordon
State: Georgia
Analyst: Dale Vonbusch



Date: 10/25/2019
File: C:\TT-01-132_DHM_Adhesives_Fire\mddair_monitoring_and_surface_water.mod



ENCLOSURE 2

TABLES

(Three Pages)



DD No. 74-01-1C
DHM Adhesives Inc.

TABLE 1
STATIONARY AIR MONITORING RESULTS
DHM ADHESIVES FIRE
CALHOUN, GORDON COUNTY, GEORGIA

Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name:

From: 9/13/19
11:47

To: 9/13/19
19:35



Location 1 - A. Hastings Scoggins Homes							
Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level
AreaRAE 1	VOC	No	5,409	60	0 - 2 ppm	0 ppm	1 ppm ^a
	HCN	No	5,409	0	0 - 0 ppm	0 ppm	1 ppm ^a
	H ₂ S	No	5,409	1	0 - 0.1 ppm	0 ppm	0.33 ppm ^a
	O ₂	No	5,217	5,217	20.9 - 20.9%	20.9%	<19.5 or >23% ^b
	LEL	No	5,409	0	0 - 0%	0%	10% ^b
DustTrak 1	PM _{2.5}	Good	266	266	24 - 88 µg/m ³	27 µg/m ³	See SOG #: T106 ^c
SPM Flex 1	COCl ₂	No	2,272	0	0 - 0 ppb	0 ppb	40 ppb ^d

Location 2 - Southeastern Area of Calhoun Middle School							
Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level
AreaRAE 2	VOC	No	1,020	60	0 - 2 ppm	0.1 ppm	1 ppm ^a
	HCN	No	1,020	0	0 - 0 ppm	0 ppm	1 ppm ^a
	H ₂ S	No	1,025	492	0 - 0 ppm	0 ppm	0.33 ppm ^a
	O ₂	No	964	964	20.1 - 20.5%	20.2%	<19.5 or >23% ^b
	LEL	No	1,025	0	0 - 0 %	0%	10% ^b
SPM Flex 2	COCl ₂	No	1,998	0	0 - 0 ppb	0 ppb	40 ppb ^d

Location 3 - Northeastern Corner of the DHM Adhesives Property							
Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level
DustTrak 3	PM _{2.5}	Good	3,137	3,136	0 - 433 µg/m ³	33.7 µg/m ³	See SOG #: T106 ^c

TABLE I
STATIONARY AIR MONITORING RESULTS
DHM ADHESIVES FIRE
CALHOUN, GORDON COUNTY, GEORGIA

Notes:

- ^a EPA Acute Exposure Guideline Levels, Table 3 – Chemical Plant (Fire), Level 1 (AEGL-1), 8-Hour, action levels, 2012
- ^b Action level defined in OSHA Regulation 29 CFR 1910.146, Permit-Required Confined Spaces
- ^c Standard Operating Guidelines, SOG #: T106 - Particulate Monitoring Guide for Fires, Table 1: Threshold Levels and Recommended Response Actions for PM2.5, 1 Hr. Avg.
- ^d EPA Acute Exposure Guideline Levels (AEGL), Table 3 – Chemical Plant (Fire), Level 1 (AEGL-2), 8-Hour, action levels, 2012

% Percent

< Less than

> Greater than

AEGL Acute Exposure Guideline levels for airborne chemicals

AEGL-1 The airborne concentration of a substance above which it is predicted that the general population, including susceptible individuals, could experience notable discomfort, irritation, or certain asymptomatic non-sensory effects; however, the effects are not disabling and are transient and reversible upon cessation of exposure.

AEGL-2 The airborne concentration of a substance above which it is predicted that the general population, including susceptible individuals, could experience irreversible or other serious, long-lasting adverse health effects or an impaired ability to escape.

COCl₂ Phosgene

CFR Codes of Federal Regulation

HCN Hydrogen Cyanide

H₂S Hydrogen Sulfide

LEL Lower Explosive Level

O₂ Oxygen

ppb Parts per billion

ppm Parts per million

PM_{2.5} Particulate matter with a diameter of less than 2.5 micrometers.

SOG Standard Operating Guidelines

µg/m³ Micrograms per cubic meter

VOC Volatile organic compound

TABLE 2
SURFACE WATER SAMPLE ANALYTICAL RESULTS
DHM ADHESIVES FIRE
CALHOUN, GORDON COUNTY, GEORGIA

Analyte	DHM-SW-01-091319	DHM-SW-02-091319	DHM-SW-03-091319
Semivolatile Organic Compounds (µg/L)			
2-Butanone	87	50 U	50 U
2-Hexanone	2 J	10 U	10 U
4-Methyl-2-pentanone	10 U	10 U	10 U
Acetone	1,500	24 J	10 U
Benzene	4.3 J	5 U	46 J
Toluene	1.1 J	5 U	5 U
Volatile Organic Compounds (µg/L)			
2,4-Dimethylphenol	22 J+	1.7 J-	10 UJ
2-Methylnaphthalene	2.2 J-	10 UJ	10 UJ
2-Methylphenol	63 J+	4.1 J-	10 UJ
4-Methylphenol	83 J+	5.6 J-	10 UJ
Acenaphthylene	16 J-	10 UJ	10 UJ
Acetophenone	11 J-	10 UJ	10 UJ
Anthracene	2 J-	10 UJ	10 UJ
Dibenzofuran	1.6 J-	10 UJ	10 UJ
Fluoranthene	2 J-	10 UJ	10 UJ
Fluorene	3.4 J-	10 UJ	10 UJ
Naphthalene	16 J-	10 UJ	10 UJ
Phenanthrene	9.7 J-	10 UJ	10 UJ
Phenol	57 J+	5.5 J-	10 UJ
Pyrene	1.8 J-	10 UJ	10 UJ

Notes:

J: The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.

J+: The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.

J-: The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.

NA: Not applicable

ND: None detected

SW: Surface water

µg/L: Micrograms per liter

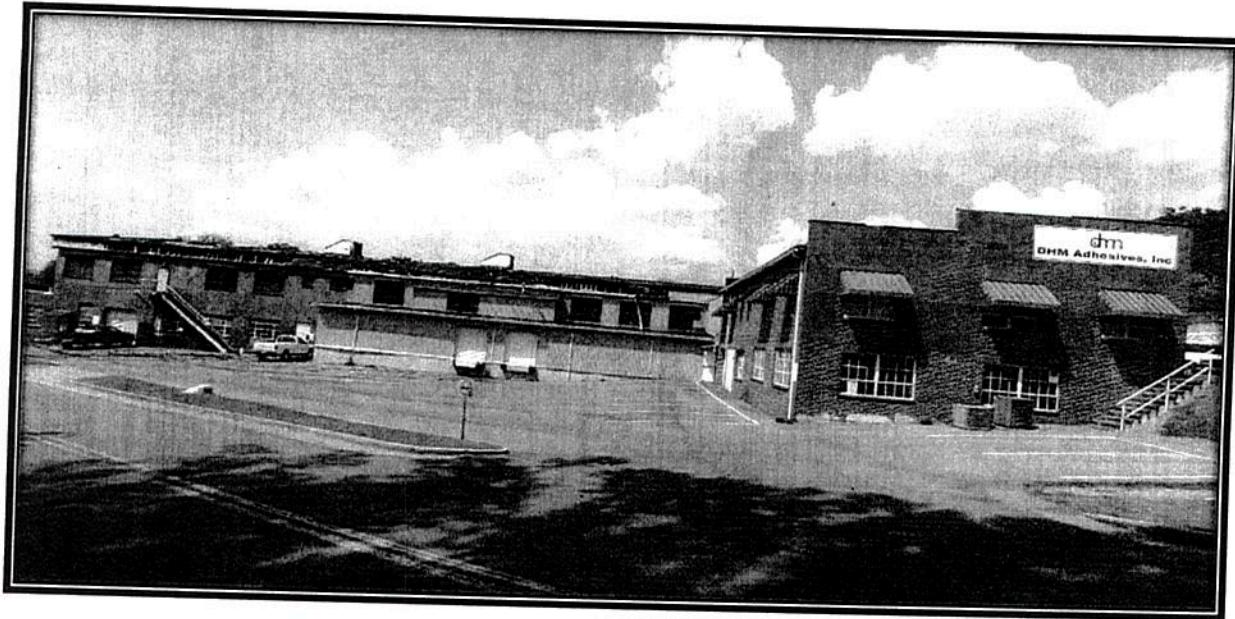
U: The analyte was not detected at or above the associated value (reporting limit)

UJ: The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria.

ENCLOSURE 3
PHOTOGRAPHIC LOG OF RESPONSE ACTIVITIES
(Four Pages)



DDN: EEL/ALC
DHM Adhesives Inc.



OFFICIAL PHOTOGRAPH NO. 1
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number: TT-01-132

Location: 509 South Wall Street, Calhoun,
Gordon County, Georgia

Orientation: Northwest

Date: September 13, 2019

Photographer: Paul Prys, Tetra Tech Superfund
Technical Assessment and
Response Team
(START)

Witness: Josiah Williams, Tetra Tech START

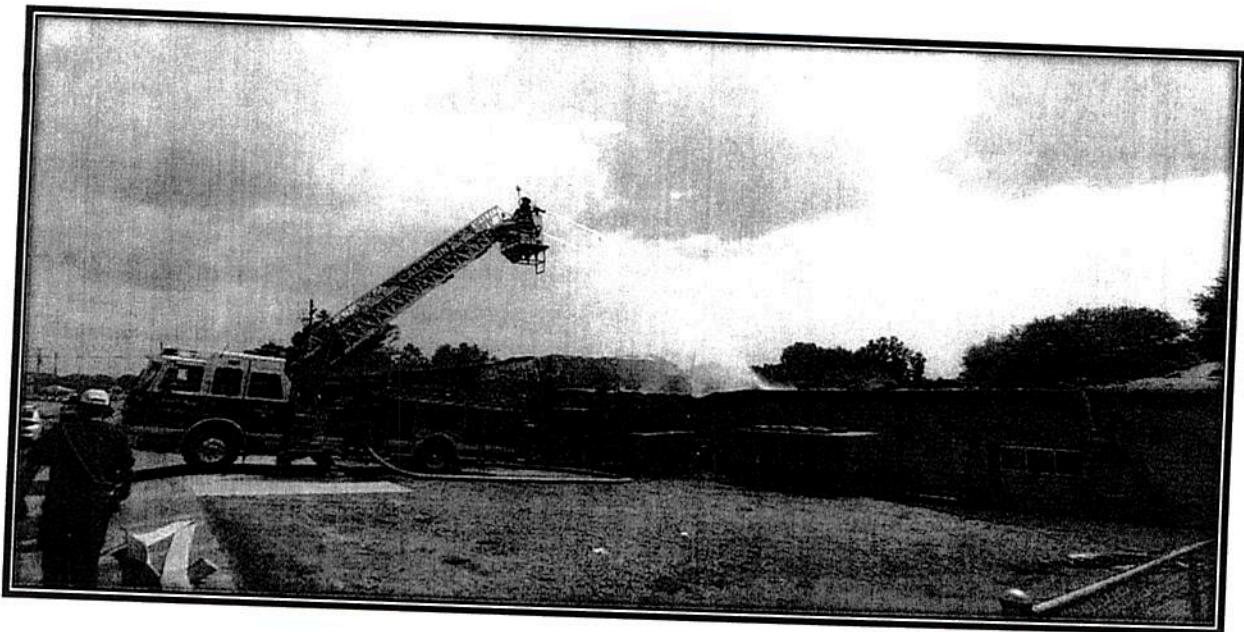
Subject: On September 13, 2019, U.S. Environmental Protection Agency (EPA), Region 4 and
Tetra Tech START personnel responded to a fire at DHM Adhesives, Inc., (DHM),
509 South Wall Street, Calhoun, Gordon County, Georgia.



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E3-1

TDD No. TT-01-132
DHM Adhesives Fire



**OFFICIAL PHOTOGRAPH NO. 2
U.S. ENVIRONMENTAL PROTECTION AGENCY**

TDD Number: TT-01-132

Location: 509 South Wall Street, Calhoun,
Gordon County, Georgia

Orientation: South

Date: September 13, 2019

Photographer: Paul Prys, Tetra Tech START

Witness: Robert Shuster, Tetra Tech

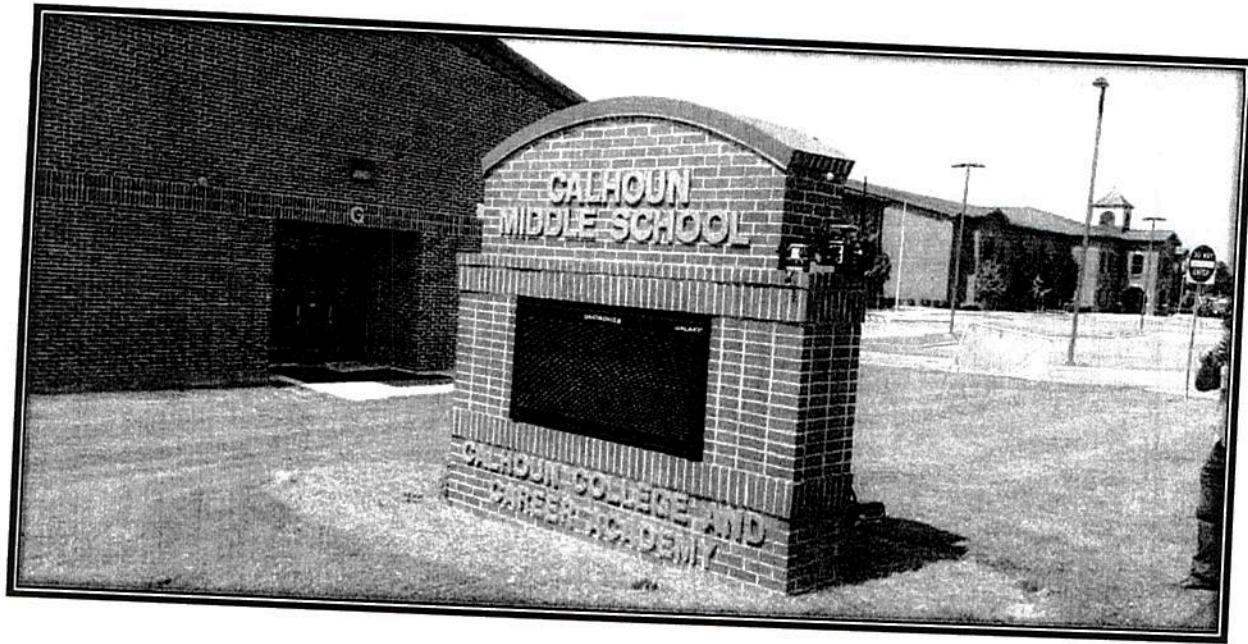
Subject: Local firefighters remained on site to suppress small fire flareups throughout the day.



TETRA TECH

E3-2

TDD No. TT-01-132
DHM Adhesives Fire



OFFICIAL PHOTOGRAPH NO. 3
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number: TT-01-132

Location: 509 South Wall Street, Calhoun,
Gordon County, Georgia

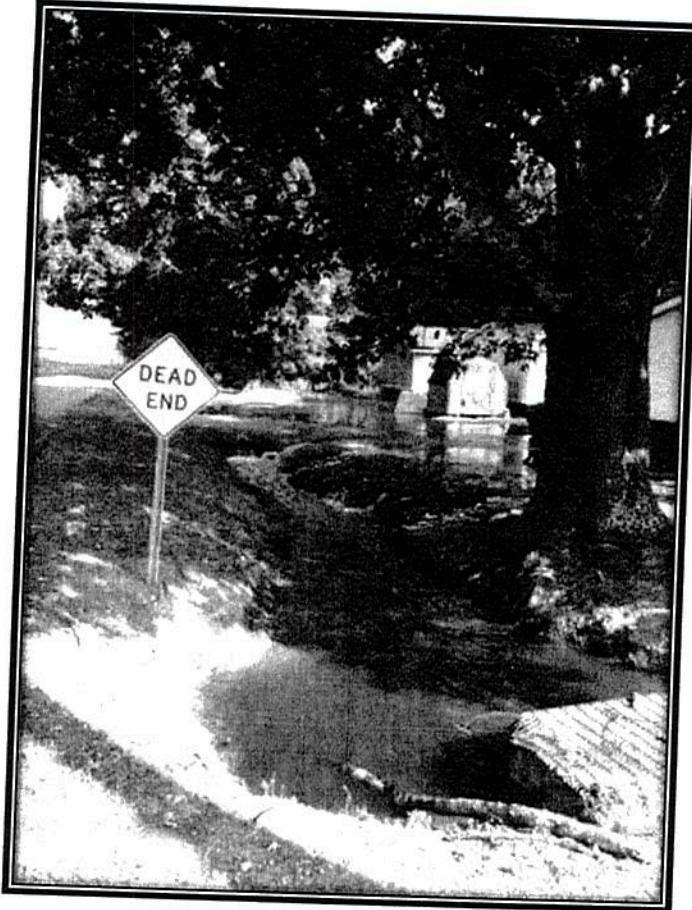
Orientation: Northwest

Date: September 13, 2019

Photographer: Paul Prys, Tetra Tech START

Witness: Ben Franco, EPA On-Scene
Coordinator (OSC)

Subject: On September 13, 2019, Tetra Tech START conducted stationary air monitoring at the Calhoun Middle School northwest of the site. Tetra Tech START monitored airborne concentrations of volatile organic compounds (VOC), hydrogen sulfide (H_2S), hydrogen cyanide (HCN), oxygen (O_2), and the lower explosive limit (LEL) using a Honeywell AreaRAE Steel Multi-Gas Monitor, and monitored phosgene ($COCl_2$) concentrations using a Honeywell Single Point Monitor (SPM) Flex Chemcassette Tape-Based Gas Detector.



OFFICIAL PHOTOGRAPH NO. 4
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number: TT-01-132

Location: 509 South Wall Street, Calhoun,
Gordon County, Georgia

Orientation: Northwest

Date: September 13, 2019

Photographer: Ben Franco, EPA OSC

Witness: None

Subject: Tetra Tech START collected a surface water sample from firefighting runoff in the ditch along North Louise Avenue. Surface water samples also were collected at locations upstream and downstream of the ditch outfall into Oothkalooga Creek. Tetra Tech START procured a local laboratory to analyze the samples for VOCs and semivolatile organic compounds (SVOC).

ENCLOSURE 4
START LOGBOOK
(Four Pages)



TT-01-132
DHM ADHESIVES FIRE



Rite in the Rain
ALL-WEATHER
UNIVERSAL
Nº 371FX

September 13, 2019

LOGBOOK

1 OF 1

INCH



CONTENTS

REFERENCE

PAGE

DATE

EPA OSC	Ben Franco
Tt R1	Paul Prys
Tt R2	Josiah Williams
Tt RA	Robert Schuster

Name Dym Adhesives Inc.

Address 569 South Wall St.

~~Garden~~ ~~Country~~ Calhoun County Georgia

Phone _____

Project Tt-51-132



RiteintheRain.com

9/13/19

Weather: $99^{\circ}/72^{\circ}$, Sunny,
20% chance of rain

1120 START ON SITE.

Begin deploying Viper. Discussed site activities with OSC BEN France. Local fire dept was still on site and portions of the building was still smoldering. OSC France wanted to conduct air monitoring using the AERARAE (with H2S sensor).

5PM Flier (Phogene) and dust track at a nearby residential area and the local high school.

1145 Begun setting up VIPER ^(P) at a residential housing area located approx 300 ft southwest of DNM laboratories. Start set up the AREA RAE and SEM Floc. (34.490477, -84.956160)

1300 Set up an AREA RAE and the SEM Floc near the south east corner of Calhoun Middle School located at 399 South River St, Calhoun, Ga (34.498074, -84.955187). SEM also continues troubleshoots WEEER connection issues.

1400 Start deployment a dust track at the

9/13/19

Friday

1600 Northeast corner of the DNM buildings property showed portions of the facility began smoldering again, and residues were located on the northern side of the facility. Firefighters continued to put out fire ^(P) smoldering debris out.

1645 Collected surface water samples DNM-SW-01-091319 from a ditch located along N. Lewis Ave (34.489225, -84.950460). This sample was collected from the fire fighting runoff to ^(P) being analyzed for VOCs and SVOCs.

(NOTE: THE DUST TRAIL located at the northeast corner of the DNM property was at 34.492621, -84.949464.)

1745 Collected surface water samples DNM-SW-02-091319 from the down stream creek location in the park located near the City of Calhoun Recreation Dept (34.486268, -84.957830)

1825 Collected surface water samples DNM-SW-03-091319 from the upstream creek location at the southeast corner of the Bristol Place Properties

Cal E BO

Cal E BO

91(3)19

1825 (cont'd) of 100 day chart of 1825
(34.487-434, -84.946 355)

Dates: VOC samples were collected
(CP) using 4D-m USA vinyl preservers
NCH and SVOC samples were collected
using 1-litre amber bottles.

1930 The DMR requested ~~relocated~~
to no longer be smell clean and the
fire department remained on site. EPA
decided to end air monitoring activities
at the site and packed up the
site equipment and moved the office and
staff demobilized from the site to the
the Duluth, ~~and~~ office.

~~Oct 22 2009~~

ENCLOSURE 5

TETRA TECH DATA VALIDATION REPORT

(16 Pages)



DDN-0414-132
DUM-AdhesiveLine



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DATA VALIDATION CHECKLIST – STAGE 2A

(Page 1 of 4)

Site Name	DHM Adhesives Fire		
Data Reviewer (signature and date)	 Duke Shantz	Project No.	103X902701132
Laboratory Report No.	September 24, 2019 1909D73	Technical Reviewer (signature and date)	 Duke Shantz
Analyses	Volatile organic compounds (VOCs) by SW-846 Method 8270E	Laboratory	October 23, 2019
Samples	SW-846 Method 8270E		Analytical Environmental Services (AES)
Field Duplicate Pairs	DHM-SW-01-091319, DHM-SW-02-091319, and DHM-SW-03-091319		
Field Blanks	None		
	DHM-TB-091319		

This checklist summarizes the Stage 2A validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Environmental data were evaluated in general accordance with the EPA *National Functional Guidelines (NFG) for Organic Superfund Methods Data Review* (January 2017) data validation guidance documents, as well as the above referenced methods.

OVERALL EVALUATION:

No rejection of data was required for this data package. The data can be used with the qualifications indicated in this checklist.

Data completeness:

Within Criteria	Exceedance/Notes
Y	

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
N	Sample 1909D73-001A: One vial received with significant headspace (> 0.25 inch bubble) – no flag (remaining vials were without headspace issue and were used for analysis)



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DATA VALIDATION CHECKLIST – STAGE 2A
(Page 2 of 4)

Method blanks:

Within Criteria	Exceedance/Notes
Y	

Field blanks:

Within Criteria	Exceedance/Notes
Y	

System monitoring compounds (surrogates and labeled compounds):

Within Criteria	Exceedance/Notes
N	%R high for SVOC surrogate 2,4,6-tribromophenol and %R low for SVOC surrogate 4-terphenyl-d ₁₄ for DHM-SW-01-091319 – flag positive acid extractables “J+” and base/neutral extractables “J-/UJ”
	%R low for SVOC surrogates 4-terphenyl-d ₁₄ and phenol-d ₅ for DHM-SW-02-091319 – flag all SVOCs “J-/UJ”
	%R low for SVOC surrogates 2-fluorobiphenyl, 4-terphenyl-d ₁₄ , and phenol-d ₅ for DHM-SW-03-091319 – flag all SVOCs “UJ”

MS/MSDs:

Within Criteria	Exceedance/Notes
NA	MS/MSDs performed on non-project samples were not evaluated.

Laboratory duplicates:

Within Criteria	Exceedance/Notes
NA	Laboratory duplicates performed on non-project samples were not evaluated.



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DATA VALIDATION CHECKLIST – STAGE 2A
(Page 3 of 4)

Field duplicates:

Within Criteria	Exceedance/Notes
NA	

LCSs/LCSDs:

Within Criteria	Exceedance/Notes
Y	Note: Full spike lists were not used.

Sample dilutions:

Within Criteria	Exceedance/Notes
Y	10x: acetone for DHM-SW-01-091319

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
NA	

MDLs/RLs:

Within Criteria	Exceedance/Notes
Y	Results between method detection limit and reporting limit – flagged "J" by laboratory



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DATA VALIDATION CHECKLIST – STAGE 2A (Page 4 of 4)

Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

J	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.
J+	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample high.
J-	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated value is the approximate concentration of the analyte in the sample.
R	The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.
U	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).
UJ	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria.

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Sample ID	Analyte	Laboratory Results	Laboratory Qualifiers	Units	Reporting Limit	Validated Results	Validated Qualifiers
DHM-SW-01-091319	1,1,1-Trichloroethane	0.3 U	ug/L		5	5	U
DHM-SW-01-091319	1,1,2,2-Tetrachloroethane	0.34 U	ug/L		5	5	U
DHM-SW-01-091319	1,1,2-Trichloroethane	0.43 U	ug/L		5	5	U
DHM-SW-01-091319	1,1-Dichloroethane	0.43 U	ug/L		5	5	U
DHM-SW-01-091319	1,1-Dichloroethene	0.4 U	ug/L		5	5	U
DHM-SW-01-091319	1,2,4-Trichlorobenzene	0.39 U	ug/L		5	5	U
DHM-SW-01-091319	1,2-Dibromo-3-chloropropane	0.68 U	ug/L		5	5	U
DHM-SW-01-091319	1,2-Dibromoethane	0.57 U	ug/L		5	5	U
DHM-SW-01-091319	1,2-Dichlorobenzene	0.45 U	ug/L		5	5	U
DHM-SW-01-091319	1,2-Dichloroethane	0.37 U	ug/L		5	5	U
DHM-SW-01-091319	1,2-Dichloropropane	0.35 U	ug/L		5	5	U
DHM-SW-01-091319	1,3-Dichlorobenzene	0.31 U	ug/L		5	5	U
DHM-SW-01-091319	1,4-Dichlorobenzene	0.33 U	ug/L		5	5	U
DHM-SW-01-091319	2-Butanone	87	ug/L		5	5	U
DHM-SW-01-091319	2-Hexanone	2 J	ug/L		50	87	
DHM-SW-01-091319	4-Methyl-2-pentanone	0.44 U	ug/L		10	2 J	
DHM-SW-01-091319	Acetone	1500	ug/L		10	10 U	
DHM-SW-01-091319	Benzene			500	1500		
DHM-SW-01-091319	Bromodichloromethane	4.3 J	ug/L		5	4.3 J	
DHM-SW-01-091319	Bromoform	0.25 U	ug/L		5	5	U
DHM-SW-01-091319	Bromomethane	0.19 U	ug/L		5	5	U
DHM-SW-01-091319	Carbon disulfide	0.39 U	ug/L		5	5	U
DHM-SW-01-091319	Carbon tetrachloride	0.74 U	ug/L		5	5	U
DHM-SW-01-091319	Chlorobenzene	0.29 U	ug/L		5	5	U
DHM-SW-01-091319	Chloroethane	0.42 U	ug/L		5	5	U
DHM-SW-01-091319	Chloroform	0.31 U	ug/L		5	5	U
DHM-SW-01-091319	Chloromethane	0.2 U	ug/L		10	10 U	
DHM-SW-01-091319	cis-1,2-Dichloroethene	0.21 U	ug/L		10	10 U	
DHM-SW-01-091319	cis-1,3-Dichloropropene	0.28 U	ug/L		5	5	U
DHM-SW-01-091319	Cyclohexane	0.31 U	ug/L		5	5	U
DHM-SW-01-091319	Dibromochloromethane	1 U	ug/L		5	5	U
DHM-SW-01-091319	Dichlorodifluoromethane	0.43 U	ug/L		5	5	U
DHM-SW-01-091319	Ethylbenzene	0.15 U	ug/L		10	10 U	
		0.26 U	ug/L		5	5	U

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Sample ID	Analyte	Laboratory Results	Laboratory Qualifiers	Units	Reporting Limit	Validated Results	Validated Qualifiers
DHM-SW-01-091319	Freon-113	0.32 U	ug/L	10	10 U		
DHM-SW-01-091319	Isopropylbenzene	0.43 U	ug/L	5	5 U		
DHM-SW-01-091319	m,p-Xylene	0.6 U	ug/L	5	5 U		
DHM-SW-01-091319	Methyl acetate	0.42 U	ug/L	5	5 U		
DHM-SW-01-091319	Methyl tert-butyl ether	0.45 U	ug/L	5	5 U		
DHM-SW-01-091319	Methylcyclohexane	0.39 U	ug/L	5	5 U		
DHM-SW-01-091319	Methylene chloride	1.2 U	ug/L	5	5 U		
DHM-SW-01-091319	o-Xylene	0.18 U	ug/L	5	5 U		
DHM-SW-01-091319	Styrene	0.15 U	ug/L	5	5 U		
DHM-SW-01-091319	Tetrachloroethene	0.46 U	ug/L	5	5 U		
DHM-SW-01-091319	Toluene	1.1 J	ug/L	5	5 U		
DHM-SW-01-091319	trans-1,2-Dichloroethene	0.3 U	ug/L	5	1.1 J		
DHM-SW-01-091319	trans-1,3-Dichloropropene	0.32 U	ug/L	5	5 U		
DHM-SW-01-091319	Trichloroethene	0.3 U	ug/L	5	5 U		
DHM-SW-01-091319	Trichlorofluoromethane	0.18 U	ug/L	5	5 U		
DHM-SW-01-091319	Vinyl chloride	0.3 U	ug/L	5	5 U		
DHM-SW-01-091319	1,1'-Biphenyl	0.78 U	ug/L	2	2 U		
DHM-SW-01-091319	2,4,5-Trichlorophenol	0.99 U	ug/L	10	10 UJ		
DHM-SW-01-091319	2,4,6-Trichlorophenol	1.3 U	ug/L	25	25 U		
DHM-SW-01-091319	2,4-Dichlorophenol	1 U	ug/L	10	10 U		
DHM-SW-01-091319	2,4-Dimethylphenol	22	ug/L	10	10 U		
DHM-SW-01-091319	2,4-Dinitrophenol	5.5 U	ug/L	25	25 U		
DHM-SW-01-091319	2,4-Dinitrotoluene	1.1 U	ug/L	10	10 U		
DHM-SW-01-091319	2,6-Dinitrotoluene	1.3 U	ug/L	10	10 U		
DHM-SW-01-091319	2-Chloronaphthalene	1.8 U	ug/L	10	10 U		
DHM-SW-01-091319	2-Chlorophenol	1.2 U	ug/L	10	10 U		
DHM-SW-01-091319	2-Methylnaphthalene	2.2 J	ug/L	10	2.2 J-		
DHM-SW-01-091319	2-Methylphenol	63	ug/L	10	63 J+		
DHM-SW-01-091319	2-Nitroaniline	1.9 U	ug/L	25	25 UJ		
DHM-SW-01-091319	2-Nitrophenol	1.6 U	ug/L	10	10 U		
DHM-SW-01-091319	3,3'-Dichlorobenzidine	1.1 U	ug/L	10	10 U		
DHM-SW-01-091319	3-Nitroaniline	1.2 U	ug/L	25	25 U		
DHM-SW-01-091319	4,6-Dinitro-2-methylphenol	1.3 U	ug/L	25	25 U		

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Sample ID	Analyte	Laboratory Results	Laboratory Qualifiers	Units	Reporting Limit	Validated Results	Validated Qualifiers
DHM-SW-01-091319	4-Bromophenyl phenyl ether	1.4 U		ug/L	10	10 UJ	
DHM-SW-01-091319	4-Chloro-3-methylphenol	0.81 U		ug/L	10	10 U	
DHM-SW-01-091319	4-Chloroaniline	2.1 U		ug/L	10	10 U	
DHM-SW-01-091319	4-Chlorophenyl phenyl ether	1.3 U		ug/L	10	10 UJ	
DHM-SW-01-091319	4-Methylphenol	83		ug/L	10	10 UJ	
DHM-SW-01-091319	4-Nitroaniline	1.3 U		ug/L	10	83 J+	
DHM-SW-01-091319	4-Nitrophenol	0.77 U		ug/L	25	25 UJ	
DHM-SW-01-091319	Acenaphthene	1.1 U		ug/L	25	25 U	
DHM-SW-01-091319	Acenaphthylene	16		ug/L	10	10 UJ	
DHM-SW-01-091319	Acetophenone	11		ug/L	10	16 J-	
DHM-SW-01-091319	Anthracene	2 J		ug/L	10	11 J-	
DHM-SW-01-091319	Atrazine	0.78 U		ug/L	10	2 J-	
DHM-SW-01-091319	Benz(a)anthracene	0.96 U		ug/L	10	10 UJ	
DHM-SW-01-091319	Benzaldehyde	1.3 U		ug/L	10	10 UJ	
DHM-SW-01-091319	Benzo(a)pyrene	0.96 U		ug/L	10	10 UJ	
DHM-SW-01-091319	Benzo(b)fluoranthene	1.5 U		ug/L	10	10 UJ	
DHM-SW-01-091319	Benzo(g,h,i)perylene	1.3 U		ug/L	10	10 UJ	
DHM-SW-01-091319	Benzo(k)fluoranthene	1.5 U		ug/L	10	10 UJ	
DHM-SW-01-091319	Bis(2-chloroethoxy)methane	1.1 U		ug/L	10	10 UJ	
DHM-SW-01-091319	Bis(2-chloroethyl)ether	1.2 U		ug/L	10	10 UJ	
DHM-SW-01-091319	Bis(2-chloroisopropyl)ether	1.5 U		ug/L	10	10 UJ	
DHM-SW-01-091319	Bis(2-ethylhexyl)phthalate	1.4 U		ug/L	10	10 UJ	
DHM-SW-01-091319	Butyl benzyl phthalate	0.84 U		ug/L	10	10 UJ	
DHM-SW-01-091319	Caprolactam	1.3 U		ug/L	10	10 UJ	
DHM-SW-01-091319	Carbazole	0.75 U		ug/L	10	10 UJ	
DHM-SW-01-091319	Chrysene	0.93 U		ug/L	10	10 UJ	
DHM-SW-01-091319	Dibenz(a,h)anthracene	1.4 U		ug/L	10	10 UJ	
DHM-SW-01-091319	Dibenzofuran	1.6 J		ug/L	10	1.6 J-	
DHM-SW-01-091319	Diethyl phthalate	0.82 U		ug/L	10	10 UJ	
DHM-SW-01-091319	Dimethyl phthalate	1 U		ug/L	10	10 UJ	
DHM-SW-01-091319	Di-n-butyl phthalate	1.1 U		ug/L	10	10 UJ	
DHM-SW-01-091319	Di-n-octyl phthalate	1.6 U		ug/L	10	10 UJ	
DHM-SW-01-091319	Fluoranthene	2 J		ug/L	10	2 J-	

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Sample ID	Analyte	Laboratory Results	Laboratory Qualifiers	Units	Reporting Limit	Validated Results	Validated Qualifiers
DHM-SW-01-091319	Fluorene	3.4 J	ug/L	10	3.4 J-		
DHM-SW-01-091319	Hexachlorobenzene	1.1 U	ug/L	10	10 UJ		
DHM-SW-01-091319	Hexachlorobutadiene	1.2 U	ug/L	10	10 UJ		
DHM-SW-01-091319	Hexachlorocyclopentadiene	2.1 U	ug/L	10	10 UJ		
DHM-SW-01-091319	Hexachloroethane	1.3 U	ug/L	10	10 UJ		
DHM-SW-01-091319	Indeno(1,2,3-cd)pyrene	1.2 U	ug/L	10	10 UJ		
DHM-SW-01-091319	Isophorone	0.86 U	ug/L	10	10 UJ		
DHM-SW-01-091319	Naphthalene	16	ug/L	10	16 J-		
DHM-SW-01-091319	Nitrobenzene	1.2 U	ug/L	10	10 UJ		
DHM-SW-01-091319	N-Nitrosodi-n-propylamine	0.82 U	ug/L	10	10 UJ		
DHM-SW-01-091319	N-Nitrosodiphenylamine	0.9 U	ug/L	10	10 UJ		
DHM-SW-01-091319	Pentachlorophenol	0.62 U	ug/L	25	25 U		
DHM-SW-01-091319	Phenanthrene	9.7 J	ug/L	10	9.7 J-		
DHM-SW-01-091319	Phenol	57	ug/L	10	57 J+		
DHM-SW-01-091319	Pyrene	1.8 J	ug/L	10	1.8 J-		
DHM-SW-02-091319	1,1,1-Trichloroethane	0.3 U	ug/L	5	5 U		
DHM-SW-02-091319	1,1,2,2-Tetrachloroethane	0.34 U	ug/L	5	5 U		
DHM-SW-02-091319	1,1,2-Trichloroethane	0.43 U	ug/L	5	5 U		
DHM-SW-02-091319	1,1-Dichloroethane	0.43 U	ug/L	5	5 U		
DHM-SW-02-091319	1,1-Dichloroethene	0.4 U	ug/L	5	5 U		
DHM-SW-02-091319	1,2,4-Trichlorobenzene	0.39 U	ug/L	5	5 U		
DHM-SW-02-091319	1,2-Dibromo-3-chloropropane	0.68 U	ug/L	5	5 U		
DHM-SW-02-091319	1,2-Dibromoethane	0.57 U	ug/L	5	5 U		
DHM-SW-02-091319	1,2-Dichlorobenzene	0.45 U	ug/L	5	5 U		
DHM-SW-02-091319	1,2-Dichloroethane	0.37 U	ug/L	5	5 U		
DHM-SW-02-091319	1,2-Dichloropropane	0.35 U	ug/L	5	5 U		
DHM-SW-02-091319	1,3-Dichlorobenzene	0.31 U	ug/L	5	5 U		
DHM-SW-02-091319	1,4-Dichlorobenzene	0.33 U	ug/L	5	5 U		
DHM-SW-02-091319	2-Butanone	2.5 U	ug/L	50	50 U		
DHM-SW-02-091319	2-Hexanone	0.67 U	ug/L	10	10 U		
DHM-SW-02-091319	4-Methyl-2-pentanone	0.44 U	ug/L	10	10 U		
DHM-SW-02-091319	Acetone	24 J	ug/L	50	24 J		
DHM-SW-02-091319	Benzene	0.37 U	ug/L	5	5 U		

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Sample ID	Analyte	Laboratory Results	Laboratory Qualifiers	Units	Reporting Limit	Validated Results	Validated Qualifiers
DHM-SW-02-091319	Bromodichloromethane	0.25 U	ug/L	5	5 U	5	5 U
DHM-SW-02-091319	Bromoform	0.19 U	ug/L	5	5 U	5	5 U
DHM-SW-02-091319	Bromomethane	0.39 U	ug/L	5	5 U	5	5 U
DHM-SW-02-091319	Carbon disulfide	0.74 U	ug/L	5	5 U	5	5 U
DHM-SW-02-091319	Carbon tetrachloride	0.29 U	ug/L	5	5 U	5	5 U
DHM-SW-02-091319	Chlorobenzene	0.42 U	ug/L	5	5 U	5	5 U
DHM-SW-02-091319	Chloroethane	0.31 U	ug/L	10	10 U	10	10 U
DHM-SW-02-091319	Chloroform	0.2 U	ug/L	5	5 U	5	5 U
DHM-SW-02-091319	Chloromethane	0.21 U	ug/L	10	10 U	10	10 U
DHM-SW-02-091319	cis-1,2-Dichloroethene	0.28 U	ug/L	5	5 U	5	5 U
DHM-SW-02-091319	cis-1,3-Dichloropropene	0.31 U	ug/L	5	5 U	5	5 U
DHM-SW-02-091319	Cyclohexane	1 U	ug/L	5	5 U	5	5 U
DHM-SW-02-091319	Dibromochloromethane	0.43 U	ug/L	5	5 U	5	5 U
DHM-SW-02-091319	Dichlorodifluoromethane	0.15 U	ug/L	10	10 U	10	10 U
DHM-SW-02-091319	Ethylbenzene	0.26 U	ug/L	5	5 U	5	5 U
DHM-SW-02-091319	Freon-1,1,2,2-tetrafluoroethane	0.32 U	ug/L	10	10 U	10	10 U
DHM-SW-02-091319	Isopropylbenzene	0.43 U	ug/L	5	5 U	5	5 U
DHM-SW-02-091319	m,p-Xylene	0.6 U	ug/L	5	5 U	5	5 U
DHM-SW-02-091319	Methyl acetate	0.42 U	ug/L	5	5 U	5	5 U
DHM-SW-02-091319	Methyl tert-butyl ether	0.45 U	ug/L	5	5 U	5	5 U
DHM-SW-02-091319	Methylcyclohexane	0.39 U	ug/L	5	5 U	5	5 U
DHM-SW-02-091319	Methylene chloride	1.2 U	ug/L	5	5 U	5	5 U
DHM-SW-02-091319	o-Xylene	0.18 U	ug/L	5	5 U	5	5 U
DHM-SW-02-091319	Styrene	0.15 U	ug/L	5	5 U	5	5 U
DHM-SW-02-091319	Tetrachloroethene	0.46 U	ug/L	5	5 U	5	5 U
DHM-SW-02-091319	Toluene	0.39 U	ug/L	5	5 U	5	5 U
DHM-SW-02-091319	trans-1,2-Dichloroethene	0.3 U	ug/L	5	5 U	5	5 U
DHM-SW-02-091319	trans-1,3-Dichloropropene	0.32 U	ug/L	5	5 U	5	5 U
DHM-SW-02-091319	Trichloroethene	0.3 U	ug/L	5	5 U	5	5 U
DHM-SW-02-091319	Trichlorofluoromethane	0.18 U	ug/L	2	2 U	2	2 U
DHM-SW-02-091319	Vinyl chloride	0.3 U	ug/L	10	10 U	10	10 U
DHM-SW-02-091319	1,1'-Biphenyl	0.78 U	ug/L	25	25 UJ	25	25 UJ
DHM-SW-02-091319	2,4,5-Trichlorophenol	0.99 U	ug/L				

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Sample ID	Analyte	Laboratory Results	Laboratory Qualifiers	Units	Reporting Limit	Validated Results	Validated Qualifiers
DHM-SW-02-091319	2,4,6-Trichlorophenol	1.3 U	ug/L	10	10 UJ		
DHM-SW-02-091319	2,4-Dichlorophenol	1 U	ug/L	10	10 UJ		
DHM-SW-02-091319	2,4-Dimethylphenol	1.7 J	ug/L	10	1.7 J-		
DHM-SW-02-091319	2,4-Dinitrophenol	5.5 U	ug/L	25	25 UJ		
DHM-SW-02-091319	2,4-Dinitrotoluene	1.1 U	ug/L	10	10 UJ		
DHM-SW-02-091319	2,6-Dinitrotoluene	1.3 U	ug/L	10	10 UJ		
DHM-SW-02-091319	2-Chloronaphthalene	1.8 U	ug/L	10	10 UJ		
DHM-SW-02-091319	2-Chlorophenol	1.2 U	ug/L	10	10 UJ		
DHM-SW-02-091319	2-Methylnaphthalene	1.2 U	ug/L	10	10 UJ		
DHM-SW-02-091319	2-Methylphenol	4.1 J	ug/L	10	4.1 J-		
DHM-SW-02-091319	2-Nitroaniline	1.9 U	ug/L	25	25 UJ		
DHM-SW-02-091319	2-Nitrophenol	1.6 U	ug/L	10	10 UJ		
DHM-SW-02-091319	3,3'-Dichlorobenzidine	1.1 U	ug/L	10	10 UJ		
DHM-SW-02-091319	3-Nitroaniline	1.2 U	ug/L	25	25 UJ		
DHM-SW-02-091319	4,6-Dinitro-2-methylphenol	1.3 U	ug/L	25	25 UJ		
DHM-SW-02-091319	4-Bromophenyl phenyl ether	1.4 U	ug/L	10	10 UJ		
DHM-SW-02-091319	4-Chloro-3-methylphenol	0.81 U	ug/L	10	10 UJ		
DHM-SW-02-091319	4-Chloroaniline	2.1 U	ug/L	25	25 UJ		
DHM-SW-02-091319	4-Chlorophenyl phenyl ether	1.3 U	ug/L	10	10 UJ		
DHM-SW-02-091319	4-Methylphenol	5.6 J	ug/L	10	5.6 J-		
DHM-SW-02-091319	4-Nitroaniline	1.3 U	ug/L	25	25 UJ		
DHM-SW-02-091319	4-Nitrophenol	0.77 U	ug/L	25	25 UJ		
DHM-SW-02-091319	Aceraphthene	1.1 U	ug/L	10	10 UJ		
DHM-SW-02-091319	Acenaphthylene	1.1 U	ug/L	10	10 UJ		
DHM-SW-02-091319	Acetophenone	2.1 U	ug/L	10	10 UJ		
DHM-SW-02-091319	Anthracene	0.78 U	ug/L	10	10 UJ		
DHM-SW-02-091319	Benz(a)anthracene	0.96 U	ug/L	10	10 UJ		
DHM-SW-02-091319	Benzaldehyde	1.3 U	ug/L	10	10 UJ		
DHM-SW-02-091319	Benzo(a)pyrene	0.96 U	ug/L	10	10 UJ		
DHM-SW-02-091319	Benzo(b)fluoranthene	1.5 U	ug/L	10	10 UJ		
DHM-SW-02-091319	Benzo(g,h,i)perylene	1.3 U	ug/L	10	10 UJ		
DHM-SW-02-091319	Benzo(k)fluoranthene	1.5 U	ug/L	10	10 UJ		

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Sample ID	Analyte	Laboratory Results	Laboratory Qualifiers	Units	Reporting Limit	Validated Results	Validated Qualifiers
DHM-SW-02-091319	Bis(2-chloroethoxy)methane	1.1 U	ug/L		10	10 UJ	
DHM-SW-02-091319	Bis(2-chloroethyl)ether	1.2 U	ug/L		10	10 UJ	
DHM-SW-02-091319	Bis(2-chloroisopropyl)ether	1.5 U	ug/L		10	10 UJ	
DHM-SW-02-091319	Bis(2-ethylhexyl)phthalate	1.4 U	ug/L		10	10 UJ	
DHM-SW-02-091319	Butyl benzyl phthalate	0.84 U	ug/L		10	10 UJ	
DHM-SW-02-091319	Caprolactam	1.3 U	ug/L		10	10 UJ	
DHM-SW-02-091319	Carbazole	0.75 U	ug/L		10	10 UJ	
DHM-SW-02-091319	Chrysene	0.93 U	ug/L		10	10 UJ	
DHM-SW-02-091319	Dibenz(a,h)anthracene	1.4 U	ug/L		10	10 UJ	
DHM-SW-02-091319	Dibenzofuran	1.1 U	ug/L		10	10 UJ	
DHM-SW-02-091319	Diethyl phthalate	0.82 U	ug/L		10	10 UJ	
DHM-SW-02-091319	Dimethyl phthalate	1 U	ug/L		10	10 UJ	
DHM-SW-02-091319	Di-n-butyl phthalate	1.1 U	ug/L		10	10 UJ	
DHM-SW-02-091319	Di-n-octyl phthalate	1.6 U	ug/L		10	10 UJ	
DHM-SW-02-091319	Fluoranthene	1 U	ug/L		10	10 UJ	
DHM-SW-02-091319	Fluorene	1.2 U	ug/L		10	10 UJ	
DHM-SW-02-091319	Hexachlorobenzene	1.1 U	ug/L		10	10 UJ	
DHM-SW-02-091319	Hexachlorobutadiene	1.2 U	ug/L		10	10 UJ	
DHM-SW-02-091319	Hexachlorocyclopentadiene	2.1 U	ug/L		10	10 UJ	
DHM-SW-02-091319	Hexachloroethane	1.3 U	ug/L		10	10 UJ	
DHM-SW-02-091319	Indeno(1,2,3-cd)pyrene	1.2 U	ug/L		10	10 UJ	
DHM-SW-02-091319	Isophorone	0.86 U	ug/L		10	10 UJ	
DHM-SW-02-091319	Naphthalene	1.2 U	ug/L		10	10 UJ	
DHM-SW-02-091319	Nitrobenzene	1.2 U	ug/L		10	10 UJ	
DHM-SW-02-091319	N-Nitrosodi-n-propylamine	0.82 U	ug/L		10	10 UJ	
DHM-SW-02-091319	N-Nitrosodiphenylamine	0.9 U	ug/L		10	10 UJ	
DHM-SW-02-091319	Pentachlorophenol	0.62 U	ug/L		25	25 UJ	
DHM-SW-02-091319	Phenanthrene	0.86 U	ug/L		10	10 UJ	
DHM-SW-02-091319	Phenol	5.5 J	ug/L		10	5.5 J-	
DHM-SW-02-091319	Pyrene	0.83 U	ug/L		10	10 UJ	
DHM-SW-03-091319	1,1,1-Trichloroethane	0.3 U	ug/L		5	5 U	
DHM-SW-03-091319	1,1,2,2-Tetrachloroethane	0.34 U	ug/L		5	5 U	
DHM-SW-03-091319	1,1,2-Trichloroethane	0.43 U	ug/L		5	5 U	

DHM ADHESIVES FIRE ANALYTICAL RESULTS SUMMARY
AES REPORT NO. 1909D73

Sample ID	Analyte	Laboratory Results	Laboratory Qualifiers	Units	Reporting Limit	Validated Results	Validated Qualifiers
DHM-SW-03-091319	1,1-Dichloroethane	0.43 U		ug/L		5	5 U
DHM-SW-03-091319	1,1-Dichloroethene	0.4 U		ug/L		5	5 U
DHM-SW-03-091319	1,2,4-Trichlorobenzene	0.39 U		ug/L		5	5 U
DHM-SW-03-091319	1,2-Dibromo-3-chloropropane	0.68 U		ug/L		5	5 U
DHM-SW-03-091319	1,2-Dibromoethane	0.57 U		ug/L		5	5 U
DHM-SW-03-091319	1,2-Dichlorobenzene	0.45 U		ug/L		5	5 U
DHM-SW-03-091319	1,2-Dichloroethane	0.37 U		ug/L		5	5 U
DHM-SW-03-091319	1,2-Dichloropropane	0.35 U		ug/L		5	5 U
DHM-SW-03-091319	1,3-Dichlorobenzene	0.31 U		ug/L		5	5 U
DHM-SW-03-091319	1,4-Dichlorobenzene	0.33 U		ug/L		5	5 U
DHM-SW-03-091319	2-Butanone	2.5 U		ug/L		50	50 U
DHM-SW-03-091319	2-Hexanone	0.67 U		ug/L		10	10 U
DHM-SW-03-091319	4-Methyl-2-pentanone	0.44 U		ug/L		10	10 U
DHM-SW-03-091319	Acetone	46 J		ug/L		50	46 J
DHM-SW-03-091319	Benzene	0.37 U		ug/L		5	5 U
DHM-SW-03-091319	Bromodichloromethane	0.25 U		ug/L		5	5 U
DHM-SW-03-091319	Bromoform	0.19 U		ug/L		5	5 U
DHM-SW-03-091319	Bromomethane	0.39 U		ug/L		5	5 U
DHM-SW-03-091319	Carbon disulfide	0.74 U		ug/L		5	5 U
DHM-SW-03-091319	Carbon tetrachloride	0.29 U		ug/L		5	5 U
DHM-SW-03-091319	Chlorobenzene	0.42 U		ug/L		5	5 U
DHM-SW-03-091319	Chloroethane	0.31 U		ug/L		10	10 U
DHM-SW-03-091319	Chloroform	0.2 U		ug/L		5	5 U
DHM-SW-03-091319	Chlormethane	0.21 U		ug/L		10	10 U
DHM-SW-03-091319	cis-1,2-Dichloroethene	0.28 U		ug/L		5	5 U
DHM-SW-03-091319	cis-1,3-Dichloropropene	0.31 U		ug/L		5	5 U
DHM-SW-03-091319	Cyclohexane	1 U		ug/L		5	5 U
DHM-SW-03-091319	Dibromochloromethane	0.43 U		ug/L		5	5 U
DHM-SW-03-091319	Dichlorodifluoromethane	0.15 U		ug/L		10	10 U
DHM-SW-03-091319	Ethylbenzene	0.26 U		ug/L		5	5 U
DHM-SW-03-091319	Freon-113	0.32 U		ug/L		10	10 U
DHM-SW-03-091319	Isopropylbenzene	0.43 U		ug/L		5	5 U
DHM-SW-03-091319	m,p-Xylene	0.6 U		ug/L		5	5 U

DHM ADHESIVES FIRE ANALYTICAL RESULTS SUMMARY
AES REPORT NO. 1909D73

Sample ID	Analyte	Laboratory Results	Laboratory Qualifiers	Units	Reporting Limit	Validated Results	Validated Qualifiers
DHM-SW-03-091319	Methyl acetate	0.42 U	ug/L	5	5 U	5	5 U
DHM-SW-03-091319	Methyl tert-butyl ether	0.45 U	ug/L	5	5 U	5	5 U
DHM-SW-03-091319	Methylcyclohexane	0.39 U	ug/L	5	5 U	5	5 U
DHM-SW-03-091319	Methylene chloride	1.2 U	ug/L	5	5 U	5	5 U
DHM-SW-03-091319	o-Xylene	0.18 U	ug/L	5	5 U	5	5 U
DHM-SW-03-091319	Styrene	0.15 U	ug/L	5	5 U	5	5 U
DHM-SW-03-091319	Tetrachloroethene	0.46 U	ug/L	5	5 U	5	5 U
DHM-SW-03-091319	Toluene	0.39 U	ug/L	5	5 U	5	5 U
DHM-SW-03-091319	trans-1,2-Dichloroethene	0.3 U	ug/L	5	5 U	5	5 U
DHM-SW-03-091319	trans-1,3-Dichloropropene	0.32 U	ug/L	5	5 U	5	5 U
DHM-SW-03-091319	Trichloroethene	0.3 U	ug/L	5	5 U	5	5 U
DHM-SW-03-091319	Trichlorofluoromethane	0.18 U	ug/L	5	5 U	5	5 U
DHM-SW-03-091319	Vinyl chloride	0.3 U	ug/L	5	5 U	5	5 U
DHM-SW-03-091319	1,1'-Biphenyl	0.78 U	ug/L	2	2 U	2	2 U
DHM-SW-03-091319	2,4,5-Trichlorophenol	0.99 U	ug/L	10	10 UJ	10	10 UJ
DHM-SW-03-091319	2,4,6-Trichlorophenol	1.3 U	ug/L	25	25 UJ	25	25 UJ
DHM-SW-03-091319	2,4-Dichlorophenol	1 U	ug/L	10	10 UJ	10	10 UJ
DHM-SW-03-091319	2,4-Dimethylphenol	0.72 U	ug/L	10	10 UJ	10	10 UJ
DHM-SW-03-091319	2,4-Dinitrophenol	5.5 U	ug/L	25	25 UJ	25	25 UJ
DHM-SW-03-091319	2,4-Dinitrotoluene	1.1 U	ug/L	10	10 UJ	10	10 UJ
DHM-SW-03-091319	2,6-Dinitrotoluene	1.3 U	ug/L	10	10 UJ	10	10 UJ
DHM-SW-03-091319	2-Chloronaphthalene	1.8 U	ug/L	10	10 UJ	10	10 UJ
DHM-SW-03-091319	2-Chlorophenol	1.2 U	ug/L	10	10 UJ	10	10 UJ
DHM-SW-03-091319	2-Methylnaphthalene	1.2 U	ug/L	10	10 UJ	10	10 UJ
DHM-SW-03-091319	2-Methylphenol	1.3 U	ug/L	10	10 UJ	10	10 UJ
DHM-SW-03-091319	2-Nitroaniline	1.1 U	ug/L	10	10 UJ	10	10 UJ
DHM-SW-03-091319	3-Nitroaniline	1.2 U	ug/L	25	25 UJ	25	25 UJ
DHM-SW-03-091319	4,6-Dinitro-2-methylphenol	1.3 U	ug/L	25	25 UJ	25	25 UJ
DHM-SW-03-091319	4-Bromophenyl phenyl ether	1.4 U	ug/L	10	10 UJ	10	10 UJ
DHM-SW-03-091319	4-Chloro-3-methylphenol	0.81 U	ug/L	10	10 UJ	10	10 UJ
DHM-SW-03-091319	4-Chloroaniline	2.1 U	ug/L	10	10 UJ	10	10 UJ

DHM ADHESIVES FIRE ANALYTICAL RESULTS SUMMARY
AES REPORT NO. 1909D73

Sample ID	Analyte	Laboratory Results	Laboratory Qualifiers	Units	Reporting Limit	Validated Results	Validated Qualifiers
DHM-SW-03-091319	4-Chlorophenyl phenyl ether	1.3 U	ug/L	10	10 UJ		
DHM-SW-03-091319	4-Methylphenol	2.3 U	ug/L	10	10 UJ		
DHM-SW-03-091319	4-Nitroaniline	1.3 U	ug/L	25	25 UJ		
DHM-SW-03-091319	4-Nitrophenol	0.77 U	ug/L	25	25 UJ		
DHM-SW-03-091319	Acenaphthene	1.1 U	ug/L	10	10 UJ		
DHM-SW-03-091319	Acenaphthylene	1.1 U	ug/L	10	10 UJ		
DHM-SW-03-091319	Acetophenone	2.1 U	ug/L	10	10 UJ		
DHM-SW-03-091319	Anthracene	0.82 U	ug/L	10	10 UJ		
DHM-SW-03-091319	Atrazine	0.78 U	ug/L	10	10 UJ		
DHM-SW-03-091319	Benz(a)anthracene	0.96 U	ug/L	10	10 UJ		
DHM-SW-03-091319	Benzaldehyde	1.3 U	ug/L	10	10 UJ		
DHM-SW-03-091319	Benzo(a)pyrene	0.96 U	ug/L	10	10 UJ		
DHM-SW-03-091319	Benzo(b)fluoranthene	1.5 U	ug/L	10	10 UJ		
DHM-SW-03-091319	Benzo(g,h,i)perylene	1.3 U	ug/L	10	10 UJ		
DHM-SW-03-091319	Benzo(k)fluoranthene	1.5 U	ug/L	10	10 UJ		
DHM-SW-03-091319	Bis(2-chloroethoxy)methane	1.1 U	ug/L	10	10 UJ		
DHM-SW-03-091319	Bis(2-chloroethyl)ether	1.2 U	ug/L	10	10 UJ		
DHM-SW-03-091319	Bis(2-chloroisopropyl)ether	1.5 U	ug/L	10	10 UJ		
DHM-SW-03-091319	Bis(2-ethylhexyl)phthalate	1.4 U	ug/L	10	10 UJ		
DHM-SW-03-091319	Butyl benzyl phthalate	0.84 U	ug/L	10	10 UJ		
DHM-SW-03-091319	Caprolactam	1.3 U	ug/L	10	10 UJ		
DHM-SW-03-091319	Carbazole	0.75 U	ug/L	10	10 UJ		
DHM-SW-03-091319	Chrysene	0.93 U	ug/L	10	10 UJ		
DHM-SW-03-091319	Dibenz(a,h)anthracene	1.4 U	ug/L	10	10 UJ		
DHM-SW-03-091319	Dibenzofuran	1.1 U	ug/L	10	10 UJ		
DHM-SW-03-091319	Diethyl phthalate	0.82 U	ug/L	10	10 UJ		
DHM-SW-03-091319	Dimethyl phthalate	1 U	ug/L	10	10 UJ		
DHM-SW-03-091319	Di-n-butyl phthalate	1.1 U	ug/L	10	10 UJ		
DHM-SW-03-091319	Di-n-octyl phthalate	1.6 U	ug/L	10	10 UJ		
DHM-SW-03-091319	Fluoranthene	1 U	ug/L	10	10 UJ		
DHM-SW-03-091319	Fluorene	1.2 U	ug/L	10	10 UJ		
DHM-SW-03-091319	Hexachlorobenzene	1.1 U	ug/L	10	10 UJ		
DHM-SW-03-091319	Hexachlorobutadiene	1.2 U	ug/L	10	10 UJ		

DHM ADHESIVES FIRE ANALYTICAL RESULTS SUMMARY
AES REPORT NO. 1909D73

Sample ID	Analyte	Laboratory Results	Laboratory Qualifiers	Units	Reporting Limit	Validated Results	Validated Qualifiers
DHM-SW-03-091319	Hexachlorocyclopentadiene	2.1 U	ug/L	10	10 UJ		
DHM-SW-03-091319	Hexachloroethane	1.3 U	ug/L	10	10 UJ		
DHM-SW-03-091319	Indeno(1,2,3-cd)pyrene	1.2 U	ug/L	10	10 UJ		
DHM-SW-03-091319	Isophorone	0.86 U	ug/L	10	10 UJ		
DHM-SW-03-091319	Naphthalene	1.2 U	ug/L	10	10 UJ		
DHM-SW-03-091319	Nitrobenzene	1.2 U	ug/L	10	10 UJ		
DHM-SW-03-091319	N-Nitrosodi-n-propylamine	0.82 U	ug/L	10	10 UJ		
DHM-SW-03-091319	N-Nitrosodiphenylamine	0.9 U	ug/L	10	10 UJ		
DHM-SW-03-091319	Pentachlorophenol	0.62 U	ug/L	10	10 UJ		
DHM-SW-03-091319	Phenanthrene	0.86 U	ug/L	25	25 UJ		
DHM-SW-03-091319	Phenol	0.77 U	ug/L	10	10 UJ		
DHM-SW-03-091319	Pyrene	0.83 U	ug/L	10	10 UJ		
DHM-TB-091319	1,1,1-Trichloroethane	0.3 U	ug/L	10	10 UJ		
DHM-TB-091319	1,1,2,2-Tetrachloroethane	0.34 U	ug/L	5	5 UJ		
DHM-TB-091319	1,1,2-Trichloroethane	0.43 U	ug/L	5	5 UJ		
DHM-TB-091319	1,1-Dichloroethane	0.43 U	ug/L	5	5 UJ		
DHM-TB-091319	1,1-Dichloroethene	0.4 U	ug/L	5	5 UJ		
DHM-TB-091319	1,2,4-Trichlorobenzene	0.39 U	ug/L	5	5 UJ		
DHM-TB-091319	1,2-Dibromo-3-chloropropane	0.68 U	ug/L	5	5 UJ		
DHM-TB-091319	1,2-Dibromoethane	0.57 U	ug/L	5	5 UJ		
DHM-TB-091319	1,2-Dichlorobenzene	0.45 U	ug/L	5	5 UJ		
DHM-TB-091319	1,2-Dichloroethane	0.37 U	ug/L	5	5 UJ		
DHM-TB-091319	1,2-Dichloropropane	0.35 U	ug/L	5	5 UJ		
DHM-TB-091319	1,3-Dichlorobenzene	0.31 U	ug/L	5	5 UJ		
DHM-TB-091319	1,4-Dichlorobenzene	0.33 U	ug/L	5	5 UJ		
DHM-TB-091319	2-Butanone	2.5 U	ug/L	5	5 UJ		
DHM-TB-091319	2-Hexanone	0.67 U	ug/L	50	50 U		
DHM-TB-091319	4-Methyl-2-pentanone	0.44 U	ug/L	10	10 UJ		
DHM-TB-091319	Acetone	3.6 U	ug/L	10	10 UJ		
DHM-TB-091319	Benzene	0.37 U	ug/L	50	50 U		
DHM-TB-091319	Bromodichloromethane	0.25 U	ug/L	5	5 UJ		
DHM-TB-091319	Bromoform	0.19 U	ug/L	5	5 UJ		
DHM-TB-091319	Bromomethane	0.39 U	ug/L	5	5 UJ		

DHM ADHESIVES FIRE ANALYTICAL RESULTS SUMMARY
AES REPORT NO. 1909D73

Sample ID	Analyte	Laboratory Results	Laboratory Qualifiers	Units	Reporting Limit	Validated Results	Validated Qualifiers
DHM-TB-091319	Carbon disulfide	0.74 U	ug/L	5	5 U		
DHM-TB-091319	Carbon tetrachloride	0.29 U	ug/L	5	5 U		
DHM-TB-091319	Chlorobenzene	0.42 U	ug/L	5	5 U		
DHM-TB-091319	Chloroethane	0.31 U	ug/L	5	5 U		
DHM-TB-091319	Chloroform	0.2 U	ug/L	10	10 U		
DHM-TB-091319	Chloromethane	0.21 U	ug/L	5	5 U		
DHM-TB-091319	cis-1,2-Dichloroethene	0.28 U	ug/L	10	10 U		
DHM-TB-091319	cis-1,3-Dichloropropene	0.31 U	ug/L	5	5 U		
DHM-TB-091319	Cyclohexane	1 U	ug/L	5	5 U		
DHM-TB-091319	Dibromochloromethane	0.43 U	ug/L	5	5 U		
DHM-TB-091319	Dichlorodifluoromethane	0.15 U	ug/L	10	10 U		
DHM-TB-091319	Ethylbenzene	0.26 U	ug/L	5	5 U		
DHM-TB-091319	Freon-113	0.32 U	ug/L	5	5 U		
DHM-TB-091319	Isopropylbenzene	0.43 U	ug/L	5	5 U		
DHM-TB-091319	m,p-Xylene	0.6 U	ug/L	5	5 U		
DHM-TB-091319	Methyl acetate	0.42 U	ug/L	5	5 U		
DHM-TB-091319	Methyl tert-butyl ether	0.45 U	ug/L	5	5 U		
DHM-TB-091319	Methylcyclohexane	0.39 U	ug/L	5	5 U		
DHM-TB-091319	Methylene chloride	1.2 U	ug/L	5	5 U		
DHM-TB-091319	o-Xylene	0.18 U	ug/L	5	5 U		
DHM-TB-091319	Styrene	0.15 U	ug/L	5	5 U		
DHM-TB-091319	Tetrachloroethene	0.46 U	ug/L	5	5 U		
DHM-TB-091319	Toluene	0.39 U	ug/L	5	5 U		
DHM-TB-091319	trans-1,2-Dichloroethene	0.3 U	ug/L	5	5 U		
DHM-TB-091319	trans-1,3-Dichloropropene	0.32 U	ug/L	5	5 U		
DHM-TB-091319	Trichloroethene	0.3 U	ug/L	5	5 U		
DHM-TB-091319	Trichlorofluoromethane	0.18 U	ug/L	5	5 U		
DHM-TB-091319	Vinyl chloride	0.3 U	ug/L	2	2 U		

ATTACHMENT 1
LABORATORY DATA PACKAGE
(29 Sheets)



TDD No. 115-01132
DIME Adhesives, Inc.



ANALYTICAL ENVIRONMENTAL SERVICES, INC.

September 19, 2019

Jessica Vickers
Tetra Tech EM Inc.
1955 Evergreen Blvd.
Duluth GA 30096

RE: DHM Adhesives Fire

Dear Jessica Vickers:

Order No: 1909D73

Analytical Environmental Services, Inc. received 4 samples on 9/16/2019 2:25:00 PM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative. AES's accreditations are as follows:

-NELAP/State of Florida Laboratory ID E87582 for analysis of Non-Potable Water, Solid & Chemical Materials, Air & Emissions Volatile Organics, and Drinking Water Microbiology & Metals, effective 07/01/19-06/30/20.

State of Georgia, Department of Natural Resources ID #800 for analysis of Drinking Water Metals, effective through 06/30/20 and Total Coliforms/ E. coli, effective 04/25/17-04/24/20.

-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Metals and PCM Asbestos), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 11/01/21.

These results relate only to the items tested as received. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Sincerely,

Paris Masoudi

Paris Masoudi
Project Manager

CHAIN OF CUSTODY

Work Order: 1909 D73

TEL.: (770) 437-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

COMPANY: Tetra Tech EM, Inc.		ADDRESS: 1955 Evergreen Blvd, Bldg 200, Suite 300, Duluth, GA 30096		ANALYSIS REQUESTED		Date: <u>9/13/2019</u>	Page <u>1</u> of <u>1</u>
PHONE: 404-849-7136	FAX: 678-775-3138	SAMPLED BY: Paul Prys			Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.		No. # of Containers
#	SAMPLE ID	SAMPLED	VOC	SVOOC	PRESERVATION (See codes)	REMARKS	
1	DHM-SW-01-091319	DATE 9/13/2019	TIME 16:40	CONTAINER X	H+I 1		
2	DHM-SW-02-091319	DATE 9/13/2019	TIME 17:45	CONTAINER X	SW X X		5
3	DHM-SW-03-091319	DATE 9/13/2019	TIME 18:25	CONTAINER X	SW X X		5
4	DHM-TB-091319	DATE 9/13/2019	TIME 18:45	CONTAINER X	SW X X		5
5					O X		5
6							2
7							
8							
9							
10							
11							
12							
13							
14							
RELINQUISHED BY		DATE/TIME RECEIVED BY		DATE/TIME		PROJECT INFORMATION	
<u>Paul Prys</u> 9/16/19 1:42:22		<u>1: 01/09/19 1425</u>				PROJECT NAME: DHM Adhesives Fire	
2:				PROJECT #: 103X902701131.001F		Total # of Containers	17
3:				SITE ADDRESS: 355 South River Street Calhoun, Georgia		Turnaround Time Request	
				SEND REPORT TO: jessica.vickers@tetrattech.com		Standard 5 Business Days	
				INVOICE TO: (IF DIFFERENT FROM ABOVE)		2 Business Day Rush	
				QUOTE #: _____		Next Business Day Rush	
				PO #: _____		Same Day Rush (auth req.)	
				E-mail? <input checked="" type="checkbox"/> N; Fax? <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N		Other _____	
				DATA PACKAGE: 1 II IV			
SAMPLES RECEIVED AFTER 3PM OR SATURDAY ARE CONSIDERED AS RECEIVED ON THE NEXT BUSINESS DAY; IF NO TAT IS MARKED ON COC AES WILL PROCEED AS STANDARD TAT.							

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) O = Other (specify)

PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

Client: Tetra Tech EM Inc.
Project: DHM Adhesives Fire
Lab ID: 1909D73

Case Narrative

Sample Receiving Nonconformance:

One vial for sample 1909D73-001A was received with headspace present as signified by >1/4 inch bubble present. Laboratory proceeded with analysis on remaining vials without headspace present.

Semi-Volatiles Organic Compounds Analysis by Method 8270:

LCS- 285091 recovery Atrazine and Hexachlorocyclopentadiene was outside control limits biased low.

Analytical Environmental Services, Inc

Date: 19-Sep-19

Client: Tetra Tech EM Inc.
Project Name: DHM Adhesives Fire
Lab ID: 1909D73-001

Client Sample ID: DHM-SW-01-091319
Collection Date: 9/13/2019 4:40:00 PM
Matrix: Surface Water

Analyses		Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
TCL-SEMOVOLATILE ORGANICS	SW8270E									
(SW3510C)										
1,1'-Biphenyl		BRL		0.78	10	ug/L	285091	1	09/17/2019 15:01	YH
2,4,5-Trichlorophenol		BRL		0.99	25	ug/L	285091	1	09/17/2019 15:01	YH
2,4,6-Trichlorophenol		BRL		1.3	10	ug/L	285091	1	09/17/2019 15:01	YH
2,4-Dichlorophenol		BRL		1.0	10	ug/L	285091	1	09/17/2019 15:01	YH
2,4-Dimethylphenol		22		0.72	10	ug/L	285091	1	09/17/2019 15:01	YH
2,4-Dinitrophenol		BRL		5.5	25	ug/L	285091	1	09/17/2019 15:01	YH
2,4-Dinitrotoluene		BRL		1.1	10	ug/L	285091	1	09/17/2019 15:01	YH
2,6-Dinitrotoluene		BRL		1.3	10	ug/L	285091	1	09/17/2019 15:01	YH
2-Chloronaphthalene		BRL		1.8	10	ug/L	285091	1	09/17/2019 15:01	YH
2-Chlorophenol		BRL		1.2	10	ug/L	285091	1	09/17/2019 15:01	YH
2-Methylnaphthalene		2.2	J	1.2	10	ug/L	285091	1	09/17/2019 15:01	YH
2-Methylphenol		63		1.3	10	ug/L	285091	1	09/17/2019 15:01	YH
2-Nitroaniline		BRL		1.9	25	ug/L	285091	1	09/17/2019 15:01	YH
2-Nitrophenol		BRL		1.6	10	ug/L	285091	1	09/17/2019 15:01	YH
3,3'-Dichlorobenzidine		BRL		1.1	10	ug/L	285091	1	09/17/2019 15:01	YH
3-Nitroaniline		BRL		1.2	25	ug/L	285091	1	09/17/2019 15:01	YH
4,6-Dinitro-2-methylphenol		BRL		1.3	25	ug/L	285091	1	09/17/2019 15:01	YH
4-Bromophenyl phenyl ether		BRL		1.4	10	ug/L	285091	1	09/17/2019 15:01	YH
4-Chloro-3-methylphenol		BRL		0.81	10	ug/L	285091	1	09/17/2019 15:01	YH
4-Chloroaniline		BRL		2.1	10	ug/L	285091	1	09/17/2019 15:01	YH
4-Chlorophenyl phenyl ether		BRL		1.3	10	ug/L	285091	1	09/17/2019 15:01	YH
4-Methylphenol		83		2.3	10	ug/L	285091	1	09/17/2019 15:01	YH
4-Nitroaniline		BRL		1.3	25	ug/L	285091	1	09/17/2019 15:01	YH
4-Nitrophenol		BRL		0.77	25	ug/L	285091	1	09/17/2019 15:01	YH
Acenaphthene		BRL		1.1	10	ug/L	285091	1	09/17/2019 15:01	YH
Acenaphthylene		16		1.1	10	ug/L	285091	1	09/17/2019 15:01	YH
Acetophenone		11		2.1	10	ug/L	285091	1	09/17/2019 15:01	YH
Anthracene		2.0	J	0.82	10	ug/L	285091	1	09/17/2019 15:01	YH
Atrazine		BRL		0.78	10	ug/L	285091	1	09/17/2019 15:01	YH
Benz(a)anthracene		BRL		0.96	10	ug/L	285091	1	09/17/2019 15:01	YH
Benzaldehyde		BRL		1.3	10	ug/L	285091	1	09/17/2019 15:01	YH
Benzo(a)pyrene		BRL		0.96	10	ug/L	285091	1	09/17/2019 15:01	YH
Benzo(b)fluoranthene		BRL		1.5	10	ug/L	285091	1	09/17/2019 15:01	YH
Benzo(g,h,i)perylene		BRL		1.3	10	ug/L	285091	1	09/17/2019 15:01	YH
Benzo(k)fluoranthene		BRL		1.5	10	ug/L	285091	1	09/17/2019 15:01	YH
Bis(2-chloroethoxy)methane		BRL		1.1	10	ug/L	285091	1	09/17/2019 15:01	YH
Bis(2-chloroethyl)ether		BRL		1.2	10	ug/L	285091	1	09/17/2019 15:01	YH
Bis(2-chloroisopropyl)ether		BRL		1.5	10	ug/L	285091	1	09/17/2019 15:01	YH
Bis(2-ethylhexyl)phthalate		BRL		1.4	10	ug/L	285091	1	09/17/2019 15:01	YH

Qualifiers: * Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limit due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Narr See case narrative

Analytical Environmental Services, Inc
Date: 19-Sep-19

Client:	Tetra Tech EM Inc.	Client Sample ID:	DHM-SW-01-091319
Project Name:	DHM Adhesives Fire	Collection Date:	9/13/2019 4:40:00 PM
Lab ID:	1909D73-001	Matrix:	Surface Water

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
TCL-SEMOVOLATILE ORGANICS SW8270E (SW3510C)									
Butyl benzyl phthalate	BRL		0.84	10	ug/L	285091	1	09/17/2019 15:01	YH
Caprolactam	BRL		1.3	10	ug/L	285091	1	09/17/2019 15:01	YH
Carbazole	BRL		0.75	10	ug/L	285091	1	09/17/2019 15:01	YH
Chrysene	BRL		0.93	10	ug/L	285091	1	09/17/2019 15:01	YH
Di-n-butyl phthalate	BRL		1.1	10	ug/L	285091	1	09/17/2019 15:01	YH
Di-n-octyl phthalate	BRL		1.6	10	ug/L	285091	1	09/17/2019 15:01	YH
Dibenz(a,h)anthracene	BRL		1.4	10	ug/L	285091	1	09/17/2019 15:01	YH
Dibenzofuran	1.6	J	1.1	10	ug/L	285091	1	09/17/2019 15:01	YH
Diethyl phthalate	BRL		0.82	10	ug/L	285091	1	09/17/2019 15:01	YH
Dimethyl phthalate	BRL		1.0	10	ug/L	285091	1	09/17/2019 15:01	YH
Fluoranthene	2.0	J	1.0	10	ug/L	285091	1	09/17/2019 15:01	YH
Fluorene	3.4	J	1.2	10	ug/L	285091	1	09/17/2019 15:01	YH
Hexachlorobenzene	BRL		1.1	10	ug/L	285091	1	09/17/2019 15:01	YH
Hexachlorobutadiene	BRL		1.2	10	ug/L	285091	1	09/17/2019 15:01	YH
Hexachlorocyclopentadiene	BRL		2.1	10	ug/L	285091	1	09/17/2019 15:01	YH
Hexachloroethane	BRL		1.3	10	ug/L	285091	1	09/17/2019 15:01	YH
Indeno(1,2,3-cd)pyrene	BRL		1.2	10	ug/L	285091	1	09/17/2019 15:01	YH
Isophorone	BRL		0.86	10	ug/L	285091	1	09/17/2019 15:01	YH
N-Nitrosodi-n-propylamine	BRL		0.82	10	ug/L	285091	1	09/17/2019 15:01	YH
N-Nitrosodiphenylamine	BRL		0.90	10	ug/L	285091	1	09/17/2019 15:01	YH
Naphthalene	16		1.2	10	ug/L	285091	1	09/17/2019 15:01	YH
Nitrobenzene	BRL		1.2	10	ug/L	285091	1	09/17/2019 15:01	YH
Pentachlorophenol	BRL		0.62	25	ug/L	285091	1	09/17/2019 15:01	YH
Phenanthrene	9.7	J	0.86	10	ug/L	285091	1	09/17/2019 15:01	YH
Phenol	57		0.77	10	ug/L	285091	1	09/17/2019 15:01	YH
Pyrene	1.8	J	0.83	10	ug/L	285091	1	09/17/2019 15:01	YH
Surr: 2,4,6-Tribromophenol	136	S	0	47-127	%REC	285091	1	09/17/2019 15:01	YH
Surr: 2-Fluorobiphenyl	84.5		0	47.4-119	%REC	285091	1	09/17/2019 15:01	YH
Surr: 2-Fluorophenol	39.1		0	26.2-120	%REC	285091	1	09/17/2019 15:01	YH
Surr: 4-Terphenyl-d14	43	S	0	45-133	%REC	285091	1	09/17/2019 15:01	YH
Surr: Nitrobenzene-d5	95.3		0	41.9-121	%REC	285091	1	09/17/2019 15:01	YH
Surr: Phenol-d5	22.3		0	17.8-120	%REC	285091	1	09/17/2019 15:01	YH
TCL VOLATILE ORGANICS SW8260D (SW5030B)									
1,1,1-Trichloroethane	BRL		0.30	5.0	ug/L	285138	1	09/17/2019 18:18	JE
1,1,2,2-Tetrachloroethane	BRL		0.34	5.0	ug/L	285138	1	09/17/2019 18:18	JE
1,1,2-Trichloroethane	BRL		0.43	5.0	ug/L	285138	1	09/17/2019 18:18	JE
1,1-Dichloroethane	BRL		0.43	5.0	ug/L	285138	1	09/17/2019 18:18	JE
1,1-Dichloroethene	BRL		0.40	5.0	ug/L	285138	1	09/17/2019 18:18	JE

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Not detected at MDL
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- NC Not confirmed

- E Estimated value above quantitation range
- S Spike Recovery outside limits due to matrix
- J Estimated value detected below Reporting Limit
- > Greater than Result value
- < Less than Result value
- Narr See case narrative

Analytical Environmental Services, Inc

Date: 19-Sep-19

Client: Tetra Tech EM Inc.
Project Name: DHM Adhesives Fire
Lab ID: 1909D73-001

Client Sample ID: DHM-SW-01-091319
Collection Date: 9/13/2019 4:40:00 PM
Matrix: Surface Water

Analyses

	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst	
TCL VOLATILE ORGANICS SW8260D										
1,2,4-Trichlorobenzene	BRL		0.39	5.0	ug/L	285138	1	09/17/2019 18:18	JE	
1,2-Dibromo-3-chloropropane	BRL		0.68	5.0	ug/L	285138	1	09/17/2019 18:18	JE	
1,2-Dibromoethane	BRL		0.57	5.0	ug/L	285138	1	09/17/2019 18:18	JE	
1,2-Dichlorobenzene	BRL		0.45	5.0	ug/L	285138	1	09/17/2019 18:18	JE	
1,2-Dichloroethane	BRL		0.37	5.0	ug/L	285138	1	09/17/2019 18:18	JE	
1,2-Dichloropropane	BRL		0.35	5.0	ug/L	285138	1	09/17/2019 18:18	JE	
1,3-Dichlorobenzene	BRL		0.31	5.0	ug/L	285138	1	09/17/2019 18:18	JE	
1,4-Dichlorobenzene	BRL		0.33	5.0	ug/L	285138	1	09/17/2019 18:18	JE	
2-Butanone			87	2.5	50	ug/L	285138	1	09/17/2019 18:18	
2-Hexanone			2.0	J	0.67	10	ug/L	285138	1	09/17/2019 18:18
4-Methyl-2-pentanone	BRL		0.44		10	ug/L	285138	1	09/17/2019 18:18	
Acetone			1500		36	500	ug/L	285138	10	09/18/2019 11:35
Benzene			4.3	J	0.37	5.0	ug/L	285138	1	09/17/2019 18:18
Bromodichloromethane	BRL		0.25		5.0	ug/L	285138	1	09/17/2019 18:18	
Bromoform	BRL		0.19		5.0	ug/L	285138	1	09/17/2019 18:18	
Bromomethane	BRL		0.39		5.0	ug/L	285138	1	09/17/2019 18:18	
Carbon disulfide	BRL		0.74		5.0	ug/L	285138	1	09/17/2019 18:18	
Carbon tetrachloride	BRL		0.29		5.0	ug/L	285138	1	09/17/2019 18:18	
Chlorobenzene	BRL		0.42		5.0	ug/L	285138	1	09/17/2019 18:18	
Chloroethane	BRL		0.31		10	ug/L	285138	1	09/17/2019 18:18	
Chloroform	BRL		0.20		5.0	ug/L	285138	1	09/17/2019 18:18	
Chloromethane	BRL		0.21		10	ug/L	285138	1	09/17/2019 18:18	
cis-1,2-Dichloroethene	BRL		0.28		5.0	ug/L	285138	1	09/17/2019 18:18	
cis-1,3-Dichloropropene	BRL		0.31		5.0	ug/L	285138	1	09/17/2019 18:18	
Cyclohexane	BRL		1.0		5.0	ug/L	285138	1	09/17/2019 18:18	
Dibromochloromethane	BRL		0.43		5.0	ug/L	285138	1	09/17/2019 18:18	
Dichlorodifluoromethane	BRL		0.15		10	ug/L	285138	1	09/17/2019 18:18	
Ethylbenzene	BRL		0.26		5.0	ug/L	285138	1	09/17/2019 18:18	
Freon-113	BRL		0.32		10	ug/L	285138	1	09/17/2019 18:18	
Isopropylbenzene	BRL		0.43		5.0	ug/L	285138	1	09/17/2019 18:18	
m,p-Xylene	BRL		0.60		5.0	ug/L	285138	1	09/17/2019 18:18	
Methyl acetate	BRL		0.42		5.0	ug/L	285138	1	09/17/2019 18:18	
Methyl tert-butyl ether	BRL		0.45		5.0	ug/L	285138	1	09/17/2019 18:18	
Methylcyclohexane	BRL		0.39		5.0	ug/L	285138	1	09/17/2019 18:18	
Methylene chloride	BRL		1.2		5.0	ug/L	285138	1	09/17/2019 18:18	
o-Xylene	BRL		0.18		5.0	ug/L	285138	1	09/17/2019 18:18	
Styrene	BRL		0.15		5.0	ug/L	285138	1	09/17/2019 18:18	
Tetrachloroethene	BRL		0.46		5.0	ug/L	285138	1	09/17/2019 18:18	
Toluene		J	1.1		0.39	5.0	ug/L	285138	1	09/17/2019 18:18

Qualifiers: * Value exceeds maximum contaminant level

BRL Not detected at MDL

II Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Narr See case narrative

Analytical Environmental Services, Inc

Date: 19-Sep-19

Client: Tetra Tech EM Inc.	Client Sample ID: DHM-SW-01-091319
Project Name: DHM Adhesives Fire	Collection Date: 9/13/2019 4:40:00 PM
Lab ID: 1909D73-001	Matrix: Surface Water

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D (SW5030B)									
trans-1,2-Dichloroethene	BRL		0.30	5.0	ug/L	285138	1	09/17/2019 18:18	JE
trans-1,3-Dichloropropene	BRL		0.32	5.0	ug/L	285138	1	09/17/2019 18:18	JE
Trichloroethene	BRL		0.30	5.0	ug/L	285138	1	09/17/2019 18:18	JE
Trichlorofluoromethane	BRL		0.18	5.0	ug/L	285138	1	09/17/2019 18:18	JE
Vinyl chloride	BRL		0.30	2.0	ug/L	285138	1	09/17/2019 18:18	JE
Surr: 4-Bromofluorobenzene	106		0	64-125	%REC	285138	1	09/17/2019 18:18	JE
Surr: 4-Bromofluorobenzene	110		0	64-125	%REC	285138	10	09/18/2019 11:35	JE
Surr: Dibromofluoromethane	99		0	76.4-125	%REC	285138	1	09/17/2019 18:18	JE
Surr: Dibromofluoromethane	106		0	76.4-125	%REC	285138	10	09/18/2019 11:35	JE
Surr: Toluene-d8	105		0	78.3-116	%REC	285138	1	09/17/2019 18:18	JE
Surr: Toluene-d8	106		0	78.3-116	%REC	285138	10	09/18/2019 11:35	JE

Qualifiers: * Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Narr See case narrative

Analytical Environmental Services, Inc
Date: 19-Sep-19

Client: Tetra Tech EM Inc.
Project Name: DHM Adhesives Fire
Lab ID: 1909D73-002

Client Sample ID: DHM-SW-02-091319
Collection Date: 9/13/2019 5:45:00 PM
Matrix: Surface Water

Analyses		Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst	
TCL-SEMOVOLATILE ORGANICS SW8270E											
(SW3510C)											
1,1'-Biphenyl		BRL		0.78	10	ug/L	285091	1	09/17/2019 15:30	YH	
2,4,5-Trichlorophenol		BRL		0.99	25	ug/L	285091	1	09/17/2019 15:30	YH	
2,4,6-Trichlorophenol		BRL		1.3	10	ug/L	285091	1	09/17/2019 15:30	YH	
2,4-Dichlorophenol		BRL		1.0	10	ug/L	285091	1	09/17/2019 15:30	YH	
2,4-Dimethylphenol			J	1.7	0.72	10	ug/L	285091	1	09/17/2019 15:30	YH
2,4-Dinitrophenol		BRL		5.5	25	ug/L	285091	1	09/17/2019 15:30	YH	
2,4-Dinitrotoluene		BRL		1.1	10	ug/L	285091	1	09/17/2019 15:30	YH	
2,6-Dinitrotoluene		BRL		1.3	10	ug/L	285091	1	09/17/2019 15:30	YH	
2-Chloronaphthalene		BRL		1.8	10	ug/L	285091	1	09/17/2019 15:30	YH	
2-Chlorophenol		BRL		1.2	10	ug/L	285091	1	09/17/2019 15:30	YH	
2-Methylnaphthalene		BRL		1.2	10	ug/L	285091	1	09/17/2019 15:30	YH	
2-Methylphenol			J	4.1	1.3	10	ug/L	285091	1	09/17/2019 15:30	YH
2-Nitroaniline		BRL		1.9	25	ug/L	285091	1	09/17/2019 15:30	YH	
2-Nitrophenol		BRL		1.6	10	ug/L	285091	1	09/17/2019 15:30	YH	
3,3'-Dichlorobenzidine		BRL		1.1	10	ug/L	285091	1	09/17/2019 15:30	YH	
3-Nitroaniline		BRL		1.2	25	ug/L	285091	1	09/17/2019 15:30	YH	
4,6-Dinitro-2-methylphenol		BRL		1.3	25	ug/L	285091	1	09/17/2019 15:30	YH	
4-Bromophenyl phenyl ether		BRL		1.4	10	ug/L	285091	1	09/17/2019 15:30	YH	
4-Chloro-3-methylphenol		BRL		0.81	10	ug/L	285091	1	09/17/2019 15:30	YH	
4-Chloroaniline		BRL		2.1	10	ug/L	285091	1	09/17/2019 15:30	YH	
4-Chlorophenyl phenyl ether		BRL		1.3	10	ug/L	285091	1	09/17/2019 15:30	YH	
4-Methylphenol			J	5.6	2.3	10	ug/L	285091	1	09/17/2019 15:30	YH
4-Nitroaniline		BRL		1.3	25	ug/L	285091	1	09/17/2019 15:30	YH	
4-Nitrophenol		BRL		0.77	25	ug/L	285091	1	09/17/2019 15:30	YH	
Acenaphthene		BRL		1.1	10	ug/L	285091	1	09/17/2019 15:30	YH	
Acenaphthylene		BRL		1.1	10	ug/L	285091	1	09/17/2019 15:30	YH	
Acetophenone		BRL		2.1	10	ug/L	285091	1	09/17/2019 15:30	YH	
Anthracene		BRL		0.82	10	ug/L	285091	1	09/17/2019 15:30	YH	
Atrazine		BRL		0.78	10	ug/L	285091	1	09/17/2019 15:30	YH	
Benz(a)anthracene		BRL		0.96	10	ug/L	285091	1	09/17/2019 15:30	YH	
Benzaldehyde		BRL		1.3	10	ug/L	285091	1	09/17/2019 15:30	YH	
Benzo(a)pyrene		BRL		0.96	10	ug/L	285091	1	09/17/2019 15:30	YH	
Benzo(b)fluoranthene		BRL		1.5	10	ug/L	285091	1	09/17/2019 15:30	YH	
Benzo(g,h,i)perylene		BRL		1.3	10	ug/L	285091	1	09/17/2019 15:30	YH	
Benzo(k)fluoranthene		BRL		1.5	10	ug/L	285091	1	09/17/2019 15:30	YH	
Bis(2-chloroethoxy)methane		BRL		1.1	10	ug/L	285091	1	09/17/2019 15:30	YH	
Bis(2-chloroethyl)ether		BRL		1.2	10	ug/L	285091	1	09/17/2019 15:30	YH	
Bis(2-chloroisopropyl)ether		BRL		1.5	10	ug/L	285091	1	09/17/2019 15:30	YH	
Bis(2-ethylhexyl)phthalate		BRL		1.4	10	ug/L	285091	1	09/17/2019 15:30	YH	

Qualifiers: * Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Narr See case narrative

Analytical Environmental Services, Inc

Date: 19-Sep-19

Client: Tetra Tech EM Inc.
Project Name: DHM Adhesives Fire
Lab ID: 1909D73-002

Client Sample ID: DHM-SW-02-091319
Collection Date: 9/13/2019 5:45:00 PM
Matrix: Surface Water

Analyses		Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
TCL-SEMICVOLATILE ORGANICS SW8270E										
									(SW3510C)	
Butyl benzyl phthalate		BRL		0.84	10	ug/L	285091	1	09/17/2019 15:30	YH
Caprolactam		BRL		1.3	10	ug/L	285091	1	09/17/2019 15:30	YH
Carbazole		BRL		0.75	10	ug/L	285091	1	09/17/2019 15:30	YH
Chrysene		BRL		0.93	10	ug/L	285091	1	09/17/2019 15:30	YH
Di-n-butyl phthalate		BRL		1.1	10	ug/L	285091	1	09/17/2019 15:30	YH
Di-n-octyl phthalate		BRL		1.6	10	ug/L	285091	1	09/17/2019 15:30	YH
Dibenz(a,h)anthracene		BRL		1.4	10	ug/L	285091	1	09/17/2019 15:30	YH
Dibenzofuran		BRL		1.1	10	ug/L	285091	1	09/17/2019 15:30	YH
Diethyl phthalate		BRL		0.82	10	ug/L	285091	1	09/17/2019 15:30	YH
Dimethyl phthalate		BRL		1.0	10	ug/L	285091	1	09/17/2019 15:30	YH
Fluoranthene		BRL		1.0	10	ug/L	285091	1	09/17/2019 15:30	YH
Fluorene		BRL		1.2	10	ug/L	285091	1	09/17/2019 15:30	YH
Hexachlorobenzene		BRL		1.1	10	ug/L	285091	1	09/17/2019 15:30	YH
Hexachlorobutadiene		BRL		1.2	10	ug/L	285091	1	09/17/2019 15:30	YH
Hexachlorocyclopentadiene		BRL		2.1	10	ug/L	285091	1	09/17/2019 15:30	YH
Hexachloroethane		BRL		1.3	10	ug/L	285091	1	09/17/2019 15:30	YH
Indeno(1,2,3-cd)pyrene		BRL		1.2	10	ug/L	285091	1	09/17/2019 15:30	YH
Isophorone		BRL		0.86	10	ug/L	285091	1	09/17/2019 15:30	YH
N-Nitrosodi-n-propylamine		BRL		0.82	10	ug/L	285091	1	09/17/2019 15:30	YH
N-Nitrosodiphenylamine		BRL		0.90	10	ug/L	285091	1	09/17/2019 15:30	YH
Naphthalene		BRL		1.2	10	ug/L	285091	1	09/17/2019 15:30	YH
Nitrobenzene		BRL		1.2	10	ug/L	285091	1	09/17/2019 15:30	YH
Pentachlorophenol		BRL		0.62	25	ug/L	285091	1	09/17/2019 15:30	YH
Phenanthrene		BRL		0.86	10	ug/L	285091	1	09/17/2019 15:30	YH
Phenol	5.5	J	0.77		10	ug/L	285091	1	09/17/2019 15:30	YH
Pyrene		BRL		0.83	10	ug/L	285091	1	09/17/2019 15:30	YH
Surr: 2,4,6-Tribromophenol		99.6		0	47-127	%REC	285091	1	09/17/2019 15:30	YH
Surr: 2-Fluorobiphenyl		63.3		0	47.4-119	%REC	285091	1	09/17/2019 15:30	YH
Surr: 2-Fluorophenol		27.6		0	26.2-120	%REC	285091	1	09/17/2019 15:30	YH
Surr: 4-Terphenyl-d14		43.1	S	0	45-133	%REC	285091	1	09/17/2019 15:30	YH
Surr: Nitrobenzene-d5		61.7		0	41.9-121	%REC	285091	1	09/17/2019 15:30	YH
Surr: Phenol-d5		15.9	S	0	17.8-120	%REC	285091	1	09/17/2019 15:30	YH
TCL VOLATILE ORGANICS SW8260D										
									(SW5030B)	
1,1,1-Trichloroethane		BRL		0.30	5.0	ug/L	285138	1	09/17/2019 17:53	JE
1,1,2,2-Tetrachloroethane		BRL		0.34	5.0	ug/L	285138	1	09/17/2019 17:53	JE
1,1,2-Trichloroethane		BRL		0.43	5.0	ug/L	285138	1	09/17/2019 17:53	JE
1,1-Dichloroethane		BRL		0.43	5.0	ug/L	285138	1	09/17/2019 17:53	JE
1,1-Dichloroethene		BRL		0.40	5.0	ug/L	285138	1	09/17/2019 17:53	JE

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Not detected at MDL
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- NC Not confirmed

E Estimated value above quantitation range
 S Spike Recovery outside limits due to matrix
 J Estimated value detected below Reporting Limit
 > Greater than Result value
 < Less than Result value
 Narr See case narrative

Analytical Environmental Services, Inc
Date: 19-Sep-19

Client:	Tetra Tech EM Inc.	Client Sample ID:	DHM-SW-02-091319
Project Name:	DHM Adhesives Fire	Collection Date:	9/13/2019 5:45:00 PM
Lab ID:	1909D73-002	Matrix:	Surface Water

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D									
					(SW5030B)				
1,2,4-Trichlorobenzene	BRL		0.39	5.0	ug/L	285138	1	09/17/2019 17:53	JE
1,2-Dibromo-3-chloropropane	BRL		0.68	5.0	ug/L	285138	1	09/17/2019 17:53	JE
1,2-Dibromoethane	BRL		0.57	5.0	ug/L	285138	1	09/17/2019 17:53	JE
1,2-Dichlorobenzene	BRL		0.45	5.0	ug/L	285138	1	09/17/2019 17:53	JE
1,2-Dichloroethane	BRL		0.37	5.0	ug/L	285138	1	09/17/2019 17:53	JE
1,2-Dichloropropane	BRL		0.35	5.0	ug/L	285138	1	09/17/2019 17:53	JE
1,3-Dichlorobenzene	BRL		0.31	5.0	ug/L	285138	1	09/17/2019 17:53	JE
1,4-Dichlorobenzene	BRL		0.33	5.0	ug/L	285138	1	09/17/2019 17:53	JE
2-Butanone	BRL		2.5	50	ug/L	285138	1	09/17/2019 17:53	JE
2-Hexanone	BRL		0.67	10	ug/L	285138	1	09/17/2019 17:53	JE
4-Methyl-2-pentanone	BRL		0.44	10	ug/L	285138	1	09/17/2019 17:53	JE
Acetone	24	J	3.6	50	ug/L	285138	1	09/17/2019 17:53	JE
Benzene	BRL		0.37	5.0	ug/L	285138	1	09/17/2019 17:53	JE
Bromodichloromethane	BRL		0.25	5.0	ug/L	285138	1	09/17/2019 17:53	JE
Bromoform	BRL		0.19	5.0	ug/L	285138	1	09/17/2019 17:53	JE
Bromomethane	BRL		0.39	5.0	ug/L	285138	1	09/17/2019 17:53	JE
Carbon disulfide	BRL		0.74	5.0	ug/L	285138	1	09/17/2019 17:53	JE
Carbon tetrachloride	BRL		0.29	5.0	ug/L	285138	1	09/17/2019 17:53	JE
Chlorobenzene	BRL		0.42	5.0	ug/L	285138	1	09/17/2019 17:53	JE
Chloroethane	BRL		0.31	10	ug/L	285138	1	09/17/2019 17:53	JE
Chloroform	BRL		0.31	10	ug/L	285138	1	09/17/2019 17:53	JE
Chloromethane	BRL		0.20	5.0	ug/L	285138	1	09/17/2019 17:53	JE
cis-1,2-Dichloroethene	BRL		0.21	10	ug/L	285138	1	09/17/2019 17:53	JE
cis-1,3-Dichloropropene	BRL		0.28	5.0	ug/L	285138	1	09/17/2019 17:53	JE
Cyclohexane	BRL		0.31	5.0	ug/L	285138	1	09/17/2019 17:53	JE
Dibromochloromethane	BRL		1.0	5.0	ug/L	285138	1	09/17/2019 17:53	JE
Dichlorodifluoromethane	BRL		0.43	5.0	ug/L	285138	1	09/17/2019 17:53	JE
Ethylbenzene	BRL		0.15	10	ug/L	285138	1	09/17/2019 17:53	JE
Freon-113	BRL		0.26	5.0	ug/L	285138	1	09/17/2019 17:53	JE
Isopropylbenzene	BRL		0.32	10	ug/L	285138	1	09/17/2019 17:53	JE
m,p-Xylene	BRL		0.43	5.0	ug/L	285138	1	09/17/2019 17:53	JE
Methyl acetate	BRL		0.60	5.0	ug/L	285138	1	09/17/2019 17:53	JE
Methyl tert-butyl ether	BRL		0.42	5.0	ug/L	285138	1	09/17/2019 17:53	JE
Methylcyclohexane	BRL		0.45	5.0	ug/L	285138	1	09/17/2019 17:53	JE
Methylene chloride	BRL		0.39	5.0	ug/L	285138	1	09/17/2019 17:53	JE
o-Xylene	BRL		1.2	5.0	ug/L	285138	1	09/17/2019 17:53	JE
Styrene	BRL		0.18	5.0	ug/L	285138	1	09/17/2019 17:53	JE
Tetrachloroethene	BRL		0.15	5.0	ug/L	285138	1	09/17/2019 17:53	JE
Toluene	BRL		0.46	5.0	ug/L	285138	1	09/17/2019 17:53	JE
	BRL		0.39	5.0	ug/L	285138	1	09/17/2019 17:53	JE

Qualifiers: * Value exceeds maximum contaminant level

BRL Not detected at MDL

II Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Narr See case narrative

Analytical Environmental Services, Inc
Date: 19-Sep-19

Client: Tetra Tech EM Inc.
Project Name: DHM Adhesives Fire
Lab ID: 1909D73-002

Client Sample ID: DHM-SW-02-091319
Collection Date: 9/13/2019 5:45:00 PM
Matrix: Surface Water

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D									
					(SW5030B)				
trans-1,2-Dichloroethene	BRL	0.30	5.0	ug/L	285138	1	09/17/2019 17:53	JE	
trans-1,3-Dichloropropene	BRL	0.32	5.0	ug/L	285138	1	09/17/2019 17:53	JE	
Trichloroethene	BRL	0.30	5.0	ug/L	285138	1	09/17/2019 17:53	JE	
Trichlorofluoromethane	BRL	0.18	5.0	ug/L	285138	1	09/17/2019 17:53	JE	
Vinyl chloride	BRL	0.30	2.0	ug/L	285138	1	09/17/2019 17:53	JE	
Surr: 4-Bromofluorobenzene	101	0	64-125	%REC	285138	1	09/17/2019 17:53	JE	
Surr: Dibromofluoromethane	101	0	76.4-125	%REC	285138	1	09/17/2019 17:53	JE	
Surr: Toluene-d8	111	0	78.3-116	%REC	285138	1	09/17/2019 17:53	JE	

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Not detected at MDL
- H1 Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- NC Not confirmed

- E Estimated value above quantitation range
- S Spike Recovery outside limits due to matrix
- J Estimated value detected below Reporting Limit
- > Greater than Result value
- < Less than Result value
- Narr See case narrative

Analytical Environmental Services, Inc

Date: 19-Sep-19

Client: Tetra Tech EM Inc.	Client Sample ID: DHM-SW-03-091319
Project Name: DHM Adhesives Fire	Collection Date: 9/13/2019 6:25:00 PM
Lab ID: 1909D73-003	Matrix: Surface Water

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
TCL-SEMOVOLATILE ORGANICS SW8270E (SW3510C)									
1,1'-Biphenyl	BRL	0.78	10	ug/L	285091	1	09/17/2019 15:57	YH	
2,4,5-Trichlorophenol	BRL	0.99	25	ug/L	285091	1	09/17/2019 15:57	YH	
2,4,6-Trichlorophenol	BRL	1.3	10	ug/L	285091	1	09/17/2019 15:57	YH	
2,4-Dichlorophenol	BRL	1.0	10	ug/L	285091	1	09/17/2019 15:57	YH	
2,4-Dimethylphenol	BRL	0.72	10	ug/L	285091	1	09/17/2019 15:57	YH	
2,4-Dinitrophenol	BRL	5.5	25	ug/L	285091	1	09/17/2019 15:57	YH	
2,4-Dinitrotoluene	BRL	1.1	10	ug/L	285091	1	09/17/2019 15:57	YH	
2,6-Dinitrotoluene	BRL	1.3	10	ug/L	285091	1	09/17/2019 15:57	YH	
2-Chloronaphthalene	BRL	1.8	10	ug/L	285091	1	09/17/2019 15:57	YH	
2-Chlorophenol	BRL	1.2	10	ug/L	285091	1	09/17/2019 15:57	YH	
2-Methylnaphthalene	BRL	1.2	10	ug/L	285091	1	09/17/2019 15:57	YH	
2-Methylphenol	BRL	1.3	10	ug/L	285091	1	09/17/2019 15:57	YH	
2-Nitroaniline	BRL	1.9	25	ug/L	285091	1	09/17/2019 15:57	YH	
2-Nitrophenol	BRL	1.6	10	ug/L	285091	1	09/17/2019 15:57	YH	
3,3'-Dichlorobenzidine	BRL	1.1	10	ug/L	285091	1	09/17/2019 15:57	YH	
3-Nitroaniline	BRL	1.2	25	ug/L	285091	1	09/17/2019 15:57	YH	
4,6-Dinitro-2-methylphenol	BRL	1.3	25	ug/L	285091	1	09/17/2019 15:57	YH	
4-Bromophenyl phenyl ether	BRL	1.4	10	ug/L	285091	1	09/17/2019 15:57	YH	
4-Chloro-3-methylphenol	BRL	0.81	10	ug/L	285091	1	09/17/2019 15:57	YH	
4-Chloroaniline	BRL	2.1	10	ug/L	285091	1	09/17/2019 15:57	YH	
4-Chlorophenyl phenyl ether	BRL	1.3	10	ug/L	285091	1	09/17/2019 15:57	YH	
4-Methylphenol	BRL	2.3	10	ug/L	285091	1	09/17/2019 15:57	YH	
4-Nitroaniline	BRL	1.3	25	ug/L	285091	1	09/17/2019 15:57	YH	
4-Nitrophenol	BRL	0.77	25	ug/L	285091	1	09/17/2019 15:57	YH	
Acenaphthene	BRL	1.1	10	ug/L	285091	1	09/17/2019 15:57	YH	
Acenaphthylene	BRL	1.1	10	ug/L	285091	1	09/17/2019 15:57	YH	
Acetophenone	BRL	2.1	10	ug/L	285091	1	09/17/2019 15:57	YH	
Anthracene	BRL	0.82	10	ug/L	285091	1	09/17/2019 15:57	YH	
Atrazine	BRL	0.78	10	ug/L	285091	1	09/17/2019 15:57	YH	
Benz(a)anthracene	BRL	0.96	10	ug/L	285091	1	09/17/2019 15:57	YH	
Benzaldehyde	BRL	1.3	10	ug/L	285091	1	09/17/2019 15:57	YH	
Benzo(a)pyrene	BRL	0.96	10	ug/L	285091	1	09/17/2019 15:57	YH	
Benzo(b)fluoranthene	BRL	1.5	10	ug/L	285091	1	09/17/2019 15:57	YH	
Benzo(g,h,i)perylene	BRL	1.3	10	ug/L	285091	1	09/17/2019 15:57	YH	
Benzo(k)fluoranthene	BRL	1.5	10	ug/L	285091	1	09/17/2019 15:57	YH	
Bis(2-chloroethoxy)methane	BRL	1.1	10	ug/L	285091	1	09/17/2019 15:57	YH	
Bis(2-chloroethyl)ether	BRL	1.2	10	ug/L	285091	1	09/17/2019 15:57	YH	
Bis(2-chloroisopropyl)ether	BRL	1.5	10	ug/L	285091	1	09/17/2019 15:57	YH	
Bis(2-ethylhexyl)phthalate	BRL	1.4	10	ug/L	285091	1	09/17/2019 15:57	YH	

Qualifiers: * Value exceeds maximum contaminant level

E Estimated value above quantitation range

BRL Not detected at MDL

S Spike Recovery outside limits due to matrix

H Holding times for preparation or analysis exceeded

J Estimated value detected below Reporting Limit

N Analyte not NELAC certified

> Greater than Result value

B Analyte detected in the associated method blank

< Less than Result value

NC Not confirmed

Narr See case narrative

Analytical Environmental Services, Inc

Date: 19-Sep-19

Client: Tetra Tech EM Inc.
Project Name: DHM Adhesives Fire
Lab ID: 1909D73-003

Client Sample ID: DHM-SW-03-091319
Collection Date: 9/13/2019 6:25:00 PM
Matrix: Surface Water

Analyses		Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
TCL-SEMOVOLATILE ORGANICS SW8270E										
(SW3510C)										
Butyl benzyl phthalate		BRL	0.84	10	ug/L	285091	1	09/17/2019 15:57		YH
Caprolactam		BRL	1.3	10	ug/L	285091	1	09/17/2019 15:57		YH
Carbazole		BRL	0.75	10	ug/L	285091	1	09/17/2019 15:57		YH
Chrysene		BRL	0.93	10	ug/L	285091	1	09/17/2019 15:57		YH
Di-n-butyl phthalate		BRL	1.1	10	ug/L	285091	1	09/17/2019 15:57		YH
Di-n-octyl phthalate		BRL	1.6	10	ug/L	285091	1	09/17/2019 15:57		YH
Dibenz(a,h)anthracene		BRL	1.4	10	ug/L	285091	1	09/17/2019 15:57		YH
Dibenzofuran		BRL	1.1	10	ug/L	285091	1	09/17/2019 15:57		YH
Diethyl phthalate		BRL	0.82	10	ug/L	285091	1	09/17/2019 15:57		YH
Dimethyl phthalate		BRL	1.0	10	ug/L	285091	1	09/17/2019 15:57		YH
Fluoranthene		BRL	1.0	10	ug/L	285091	1	09/17/2019 15:57		YH
Fluorene		BRL	1.2	10	ug/L	285091	1	09/17/2019 15:57		YH
Hexachlorobenzene		BRL	1.1	10	ug/L	285091	1	09/17/2019 15:57		YH
Hexachlorobutadiene		BRL	1.2	10	ug/L	285091	1	09/17/2019 15:57		YH
Hexachlorocyclopentadiene		BRL	2.1	10	ug/L	285091	1	09/17/2019 15:57		YH
Hexachloroethane		BRL	1.3	10	ug/L	285091	1	09/17/2019 15:57		YH
Indeno(1,2,3-cd)pyrene		BRL	1.2	10	ug/L	285091	1	09/17/2019 15:57		YH
Isophorone		BRL	0.86	10	ug/L	285091	1	09/17/2019 15:57		YH
N-Nitrosodi-n-propylamine		BRL	0.82	10	ug/L	285091	1	09/17/2019 15:57		YH
N-Nitrosodiphenylamine		BRL	0.90	10	ug/L	285091	1	09/17/2019 15:57		YH
Naphthalene		BRL	1.2	10	ug/L	285091	1	09/17/2019 15:57		YH
Nitrobenzene		BRL	1.2	10	ug/L	285091	1	09/17/2019 15:57		YH
Pentachlorophenol		BRL	0.62	25	ug/L	285091	1	09/17/2019 15:57		YH
Phenanthrene		BRL	0.86	10	ug/L	285091	1	09/17/2019 15:57		YH
Phenol		BRL	0.77	10	ug/L	285091	1	09/17/2019 15:57		YH
Pyrene		BRL	0.83	10	ug/L	285091	1	09/17/2019 15:57		YH
Surr: 2,4,6-Tribromophenol		87.3	0	47-127	%REC	285091	1	09/17/2019 15:57		YH
Surr: 2-Fluorobiphenyl		61.8	0	47.4-119	%REC	285091	1	09/17/2019 15:57		YH
Surr: 2-Fluorophenol		21.2	S	0	26.2-120	%REC	285091	1	09/17/2019 15:57	
Surr: 4-Terphenyl-d14		34.4	S	0	45-133	%REC	285091	1	09/17/2019 15:57	
Surr: Nitrobenzene-d5		65.5	0	41.9-121	%REC	285091	1	09/17/2019 15:57		YH
Surr: Phenol-d5		13.1	S	0	17.8-120	%REC	285091	1	09/17/2019 15:57	
TCL VOLATILE ORGANICS SW8260D										
(SW5030B)										
1,1,1-Trichloroethane		BRL	0.30	5.0	ug/L	285138	1	09/17/2019 17:28		JE
1,1,2,2-Tetrachloroethane		BRL	0.34	5.0	ug/L	285138	1	09/17/2019 17:28		JE
1,1,2-Trichloroethane		BRL	0.43	5.0	ug/L	285138	1	09/17/2019 17:28		JE
1,1-Dichloroethane		BRL	0.43	5.0	ug/L	285138	1	09/17/2019 17:28		JE
1,1-Dichloroethene		BRL	0.40	5.0	ug/L	285138	1	09/17/2019 17:28		JE

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Not detected at MDL
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- NC Not confirmed

E Estimated value above quantitation range
 S Spike Recovery outside limits due to matrix
 J Estimated value detected below Reporting Limit
 > Greater than Result value
 < Less than Result value
 Narr See case narrative

Analytical Environmental Services, Inc

Date: 19-Sep-19

Client: Tetra Tech EM Inc.
Project Name: DHM Adhesives Fire
Lab ID: 1909D73-003

Client Sample ID: DHM-SW-03-091319
Collection Date: 9/13/2019 6:25:00 PM
Matrix: Surface Water

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D									
					(SW5030B)				
1,2,4-Trichlorobenzene	BRL		0.39	5.0	ug/L	285138	1	09/17/2019 17:28	JE
1,2-Dibromo-3-chloropropane	BRL		0.68	5.0	ug/L	285138	1	09/17/2019 17:28	JE
1,2-Dibromoethane	BRL		0.57	5.0	ug/L	285138	1	09/17/2019 17:28	JE
1,2-Dichlorobenzene	BRL		0.45	5.0	ug/L	285138	1	09/17/2019 17:28	JE
1,2-Dichloroethane	BRL		0.37	5.0	ug/L	285138	1	09/17/2019 17:28	JE
1,2-Dichloropropane	BRL		0.35	5.0	ug/L	285138	1	09/17/2019 17:28	JE
1,3-Dichlorobenzene	BRL		0.31	5.0	ug/L	285138	1	09/17/2019 17:28	JE
1,4-Dichlorobenzene	BRL		0.33	5.0	ug/L	285138	1	09/17/2019 17:28	JE
2-Butanone	BRL		2.5	50	ug/L	285138	1	09/17/2019 17:28	JE
2-Hexanone	BRL		0.67	10	ug/L	285138	1	09/17/2019 17:28	JE
4-Methyl-2-pentanone	BRL		0.44	10	ug/L	285138	1	09/17/2019 17:28	JE
Acetone	46	J	3.6	50	ug/L	285138	1	09/17/2019 17:28	JE
Benzene	BRL		0.37	5.0	ug/L	285138	1	09/17/2019 17:28	JE
Bromodichloromethane	BRL		0.25	5.0	ug/L	285138	1	09/17/2019 17:28	JE
Bromoform	BRL		0.19	5.0	ug/L	285138	1	09/17/2019 17:28	JE
Bromomethane	BRL		0.39	5.0	ug/L	285138	1	09/17/2019 17:28	JE
Carbon disulfide	BRL		0.74	5.0	ug/L	285138	1	09/17/2019 17:28	JE
Carbon tetrachloride	BRL		0.29	5.0	ug/L	285138	1	09/17/2019 17:28	JE
Chlorobenzene	BRL		0.42	5.0	ug/L	285138	1	09/17/2019 17:28	JE
Chloroethane	BRL		0.31	10	ug/L	285138	1	09/17/2019 17:28	JE
Chloroform	BRL		0.20	5.0	ug/L	285138	1	09/17/2019 17:28	JE
Chloromethane	BRL		0.21	10	ug/L	285138	1	09/17/2019 17:28	JE
cis-1,2-Dichloroethene	BRL		0.28	5.0	ug/L	285138	1	09/17/2019 17:28	JE
cis-1,3-Dichloropropene	BRL		0.31	5.0	ug/L	285138	1	09/17/2019 17:28	JE
Cyclohexane	BRL		1.0	5.0	ug/L	285138	1	09/17/2019 17:28	JE
Dibromochloromethane	BRL		0.43	5.0	ug/L	285138	1	09/17/2019 17:28	JE
Dichlorodifluoromethane	BRL		0.15	10	ug/L	285138	1	09/17/2019 17:28	JE
Ethylbenzene	BRL		0.26	5.0	ug/L	285138	1	09/17/2019 17:28	JE
Freon-113	BRL		0.32	10	ug/L	285138	1	09/17/2019 17:28	JE
Isopropylbenzene	BRL		0.43	5.0	ug/L	285138	1	09/17/2019 17:28	JE
m,p-Xylene	BRL		0.60	5.0	ug/L	285138	1	09/17/2019 17:28	JE
Methyl acetate	BRL		0.42	5.0	ug/L	285138	1	09/17/2019 17:28	JE
Methyl tert-butyl ether	BRL		0.45	5.0	ug/L	285138	1	09/17/2019 17:28	JE
Methylcyclohexane	BRL		0.39	5.0	ug/L	285138	1	09/17/2019 17:28	JE
Methylene chloride	BRL		1.2	5.0	ug/L	285138	1	09/17/2019 17:28	JE
o-Xylene	BRL		0.18	5.0	ug/L	285138	1	09/17/2019 17:28	JE
Styrene	BRL		0.15	5.0	ug/L	285138	1	09/17/2019 17:28	JE
Tetrachloroethene	BRL		0.46	5.0	ug/L	285138	1	09/17/2019 17:28	JE
Toluene	BRL		0.39	5.0	ug/L	285138	1	09/17/2019 17:28	JE

Qualifiers: * Value exceeds maximum contaminant level

BRL Not detected at MDL

II Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Narr See case narrative

Analytical Environmental Services, Inc

Date: 19-Sep-19

Client: Tetra Tech EM Inc.	Client Sample ID: DHM-SW-03-091319
Project Name: DHM Adhesives Fire	Collection Date: 9/13/2019 6:25:00 PM
Lab ID: 1909D73-003	Matrix: Surface Water

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D									
(SW5030B)									
trans-1,2-Dichloroethene	BRL	0.30	5.0	ug/L	285138	1	09/17/2019 17:28	JE	
trans-1,3-Dichloropropene	BRL	0.32	5.0	ug/L	285138	1	09/17/2019 17:28	JE	
Trichloroethene	BRL	0.30	5.0	ug/L	285138	1	09/17/2019 17:28	JE	
Trichlorofluoromethane	BRL	0.18	5.0	ug/L	285138	1	09/17/2019 17:28	JE	
Vinyl chloride	BRL	0.30	2.0	ug/L	285138	1	09/17/2019 17:28	JE	
Surr: 4-Bromofluorobenzene	104	0	64-125	%REC	285138	1	09/17/2019 17:28	JE	
Surr: Dibromofluoromethane	105	0	76.4-125	%REC	285138	1	09/17/2019 17:28	JE	
Surr: Toluene-d8	106	0	78.3-116	%REC	285138	1	09/17/2019 17:28	JE	

Qualifiers:	* Value exceeds maximum contaminant level
	BRL Not detected at MDL
	H1 Holding times for preparation or analysis exceeded
	N Analyte not NELAC certified
	B Analyte detected in the associated method blank
	NC Not confirmed

E	Estimated value above quantitation range
S	Spike Recovery outside limits due to matrix
J	Estimated value detected below Reporting Limit
>	Greater than Result value
<	Less than Result value
Narr	See case narrative

Analytical Environmental Services, Inc
Date: 19-Sep-19

Client: Tetra Tech EM Inc.
Project Name: DHM Adhesives Fire
Lab ID: 1909D73-004

Client Sample ID: DHM-TB-091319
Collection Date: 9/16/2019 6:45:00 PM
Matrix: Aqueous

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D									
								(SW5030B)	
1,1,1-Trichloroethane	BRL	0.30	5.0	ug/L	285138	1	09/17/2019 18:42		JE
1,1,2,2-Tetrachloroethane	BRL	0.34	5.0	ug/L	285138	1	09/17/2019 18:42		JE
1,1,2-Trichloroethane	BRL	0.43	5.0	ug/L	285138	1	09/17/2019 18:42		JE
1,1-Dichloroethane	BRL	0.43	5.0	ug/L	285138	1	09/17/2019 18:42		JE
1,1-Dichloroethene	BRL	0.40	5.0	ug/L	285138	1	09/17/2019 18:42		JE
1,2,4-Trichlorobenzene	BRL	0.39	5.0	ug/L	285138	1	09/17/2019 18:42		JE
1,2-Dibromo-3-chloropropane	BRL	0.68	5.0	ug/L	285138	1	09/17/2019 18:42		JE
1,2-Dibromoethane	BRL	0.57	5.0	ug/L	285138	1	09/17/2019 18:42		JE
1,2-Dichlorobenzene	BRL	0.45	5.0	ug/L	285138	1	09/17/2019 18:42		JE
1,2-Dichloroethane	BRL	0.37	5.0	ug/L	285138	1	09/17/2019 18:42		JE
1,2-Dichloropropane	BRL	0.35	5.0	ug/L	285138	1	09/17/2019 18:42		JE
1,3-Dichlorobenzene	BRL	0.31	5.0	ug/L	285138	1	09/17/2019 18:42		JE
1,4-Dichlorobenzene	BRL	0.33	5.0	ug/L	285138	1	09/17/2019 18:42		JE
2-Butanone	BRL	2.5	50	ug/L	285138	1	09/17/2019 18:42		JE
2-Hexanone	BRL	0.67	10	ug/L	285138	1	09/17/2019 18:42		JE
4-Methyl-2-pentanone	BRL	0.44	10	ug/L	285138	1	09/17/2019 18:42		JE
Acetone	BRL	3.6	50	ug/L	285138	1	09/17/2019 18:42		JE
Benzene	BRL	0.37	5.0	ug/L	285138	1	09/17/2019 18:42		JE
Bromodichloromethane	BRL	0.25	5.0	ug/L	285138	1	09/17/2019 18:42		JE
Bromoform	BRL	0.19	5.0	ug/L	285138	1	09/17/2019 18:42		JE
Bromomethane	BRL	0.39	5.0	ug/L	285138	1	09/17/2019 18:42		JE
Carbon disulfide	BRL	0.74	5.0	ug/L	285138	1	09/17/2019 18:42		JE
Carbon tetrachloride	BRL	0.29	5.0	ug/L	285138	1	09/17/2019 18:42		JE
Chlorobenzene	BRL	0.42	5.0	ug/L	285138	1	09/17/2019 18:42		JE
Chloroethane	BRL	0.31	10	ug/L	285138	1	09/17/2019 18:42		JE
Chloroform	BRL	0.20	5.0	ug/L	285138	1	09/17/2019 18:42		JE
Chloromethane	BRL	0.21	10	ug/L	285138	1	09/17/2019 18:42		JE
cis-1,2-Dichloroethene	BRL	0.28	5.0	ug/L	285138	1	09/17/2019 18:42		JE
cis-1,3-Dichloropropene	BRL	0.31	5.0	ug/L	285138	1	09/17/2019 18:42		JE
Cyclohexane	BRL	1.0	5.0	ug/L	285138	1	09/17/2019 18:42		JE
Dibromochloromethane	BRL	0.43	5.0	ug/L	285138	1	09/17/2019 18:42		JE
Dichlorodifluoromethane	BRL	0.15	10	ug/L	285138	1	09/17/2019 18:42		JE
Ethylbenzene	BRL	0.26	5.0	ug/L	285138	1	09/17/2019 18:42		JE
Freon-113	BRL	0.32	10	ug/L	285138	1	09/17/2019 18:42		JE
Isopropylbenzene	BRL	0.43	5.0	ug/L	285138	1	09/17/2019 18:42		JE
m,p-Xylene	BRL	0.60	5.0	ug/L	285138	1	09/17/2019 18:42		JE
Methyl acetate	BRL	0.42	5.0	ug/L	285138	1	09/17/2019 18:42		JE
Methyl tert-butyl ether	BRL	0.45	5.0	ug/L	285138	1	09/17/2019 18:42		JE
Methylcyclohexane	BRL	0.39	5.0	ug/L	285138	1	09/17/2019 18:42		JE

Qualifiers: * Value exceeds maximum contaminant level

BRL Not detected at MDL

E Estimated value above quantitation range

H Holding times for preparation or analysis exceeded

S Spike Recovery outside limits due to matrix

N Analyte not NELAC certified

J Estimated value detected below Reporting Limit

B Analyte detected in the associated method blank

> Greater than Result value

NC Not confirmed

< Less than Result value

Narr See case narrative

Analytical Environmental Services, Inc

Date: 19-Sep-19

Client: Tetra Tech EM Inc.
Project Name: DHM Adhesives Fire
Lab ID: 1909D73-004

Client Sample ID: DHM-TB-091319
Collection Date: 9/16/2019 6:45:00 PM
Matrix: Aqueous

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D									
Methylene chloride	BRL	1.2	5.0	ug/L	285138	I	09/17/2019 18:42	JE	
o-Xylene	BRL	0.18	5.0	ug/L	285138	I	09/17/2019 18:42	JE	
Styrene	BRL	0.15	5.0	ug/L	285138	I	09/17/2019 18:42	JE	
Tetrachloroethene	BRL	0.46	5.0	ug/L	285138	I	09/17/2019 18:42	JE	
Toluene	BRL	0.39	5.0	ug/L	285138	I	09/17/2019 18:42	JE	
trans-1,2-Dichloroethene	BRL	0.30	5.0	ug/L	285138	I	09/17/2019 18:42	JE	
trans-1,3-Dichloropropene	BRL	0.32	5.0	ug/L	285138	I	09/17/2019 18:42	JE	
Trichloroethene	BRL	0.30	5.0	ug/L	285138	I	09/17/2019 18:42	JE	
Trichlorofluoromethane	BRL	0.18	5.0	ug/L	285138	I	09/17/2019 18:42	JE	
Vinyl chloride	BRL	0.30	2.0	ug/L	285138	I	09/17/2019 18:42	JE	
Surr: 4-Bromofluorobenzene	102	0	64-125	%REC	285138	I	09/17/2019 18:42	JE	
Surr: Dibromofluoromethane	103	0	76.4-125	%REC	285138	I	09/17/2019 18:42	JE	
Surr: Toluene-d8	110	0	78.3-116	%REC	285138	I	09/17/2019 18:42	JE	

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Not detected at MDL
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- NC Not confirmed

E Estimated value above quantitation range
 S Spike Recovery outside limits due to matrix
 J Estimated value detected below Reporting Limit
 > Greater than Result value
 < Less than Result value
 Narr See case narrative



SAMPLE/COOLER RECEIPT CHECKLIST

Tetra Tech, Inc.

1909D73

AES Work Order Number:

Clear

Save as

1. Client Name:

2. Carrier: FedEx UPS USPS Client Courier Other

	Yes	No	N/A	damaged	leaking	other	Details	Comments
3. Shipping container/cooler received in good condition?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
4. Custody seals present on shipping container?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
5. Custody seals intact on shipping container?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
6. Temperature blanks present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
7. Cooler temperature(s) within limits of 0-6°C? [See item 13 and 14 for temperature recordings.]	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Cooling initiated for recently collected samples / ice present	<input type="checkbox"/>
8. Chain of Custody (COC) present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
9. Chain of Custody signed, dated, and timed when relinquished and received?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
10. Sampler name and/or signature on COC?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
11. Were all samples received within holding time?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
12. TAT marked on the COC?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	If no TAT indicated, proceeded with standard TAT per Terms & Conditions.	<input type="checkbox"/>
13. Cooler 1 Temperature 0.1 °C	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Cooler 3 Temperature _____ °C	<input type="checkbox"/>
14. Cooler 5 Temperature _____ °C	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Cooler 7 Temperature _____ °C	<input type="checkbox"/>
15. Comments:								

	Yes	No	N/A	Details	I certify that I have completed sections 1-15 (dated initials). AS 9/16/19		Comments
16. Were sample containers intact upon receipt?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
17. Custody seals present on sample containers?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
18. Custody seals intact on sample containers?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
19. Do sample container labels match the COC?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	incomplete info	<input type="checkbox"/>	illegal
20. Are analyses requested indicated on the COC?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	other
21. Were all of the samples listed on the COC received?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	no label
22. Was the sample collection date/time noted?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
23. Did we receive sufficient sample volume for indicated analyses?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
24. Were samples received in appropriate containers?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
25. Were VOA samples received without headspace (< 1/4" bubble)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
26. Were trip blanks submitted?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
27. Comments:							

	Yes	No	N/A	Details	I certify that I have completed sections 16-27 (dated initials). LM 9/16/19		Comments
28. Have containers needing chemical preservation been checked? *	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
29. Containers meet preservation guidelines?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
30. Was pH adjusted at Sample Receipt?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
* Note: Certain analyses require chemical preservation but must be checked in the laboratory and not upon Sample Receipt such as Coliforms, VOCs and Oil & Grease/TPH.							

I certify that I have completed sections 28-30 (dated initials).
LM 9/16/19

This section only applies to samples where pH can be checked at Sample Receipt

Analytical Environmental Services, Inc

Client: Tetra Tech EM Inc.
Project Name: DHM Adhesives Fire
Lab Order: 1909D73

Date: 19-Sep-19

Dates Report

Lab Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
1909D73-001A	DHM-SW-01-091319	9/13/2019 4:40:00PM	Surface Water	TCL VOLATILE ORGANICS	9/17/2019	9:18:00AM	09/17/2019
1909D73-001A	DHM-SW-01-091319	9/13/2019 4:40:00PM	Surface Water	TCL VOLATILE ORGANICS	9/17/2019	9:18:00AM	09/18/2019
1909D73-001B	DHM-SW-01-091319	9/13/2019 4:40:00PM	Surface Water	TCL-SEMOVATILE ORGANICS	9/17/2019	2:00:00PM	09/17/2019
1909D73-002A	DHM-SW-02-091319	9/13/2019 5:45:00PM	Surface Water	TCL VOLATILE ORGANICS	9/17/2019	9:18:00AM	09/17/2019
1909D73-002B	DHM-SW-02-091319	9/13/2019 5:45:00PM	Surface Water	TCL-SEMOVATILE ORGANICS	9/17/2019	2:00:00PM	09/17/2019
1909D73-003A	DHM-SW-03-091319	9/13/2019 6:25:00PM	Surface Water	TCL VOLATILE ORGANICS	9/17/2019	9:18:00AM	09/17/2019
1909D73-003B	DHM-SW-03-091319	9/13/2019 6:25:00PM	Surface Water	TCL-SEMOVATILE ORGANICS	9/17/2019	2:00:00PM	09/17/2019
1909D73-004A	DHM-TB-091319	9/16/2019 6:45:00PM	Aqueous	TCL VOLATILE ORGANICS	9/17/2019	2:00:00PM	09/17/2019
					9/17/2019	9:18:00AM	09/17/2019

Analytical Environmental Services, Inc

ANALYTICAL QC SUMMARY REPORT

Date: 19-Sep-19

Client: Tetra Tech EM Inc.
 Project Name: DHM Adhesives Fire
 Workorder: 1909D73

BatchID: 285091

Sample ID:	MB-285091	Client ID:	TCL-SEMI-VOLATILE ORGANICS	SW8270E	Units:	ug/L	Prep Date:	09/17/2019	Run No:	407347		
Sample Type:	MBLK	TestCode:			BatchID:	285091	Analysis Date:	09/18/2019	Seq No:	9159243		
Analyte		Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1'-Biphenyl		BRL	10									
2,4,5-Trichlorophenol		BRL	25									
2,4,6-Trichlorophenol		BRL	10									
2,4-Dichlorophenol		BRL	10									
2,4-Dimethylphenol		BRL	10									
2,4-Dinitrophenol		BRL	25									
2,4-Dinitrotoluene		BRL	10									
2,6-Dinitrotoluene		BRL	10									
2-Chloronaphthalene		BRL	10									
2-Chlorophenol		BRL	10									
2-Methylnaphthalene		BRL	10									
2-Methylphenol		BRL	10									
2-Nitroaniline		BRL	25									
2-Nitrophenol		BRL	10									
3,3'-Dichlorobenzidine		BRL	10									
3-Nitroaniline		BRL	25									
4,6-Dinitro-2-methylphenol		BRL	25									
4-Bromophenyl phenyl ether		BRL	10									
4-Chloro-3-methylphenol		BRL	10									
4-Chloroaniline		BRL	10									
4-Chlorophenyl phenyl ether		BRL	10									
4-Methylphenol		BRL	10									
4-Nitroaniline		BRL	25									
4-Nitrophenol		BRL	25									
Acenaphthene		BRL	10									
Acenaphthylene		BRL	10									
Acetophenone		BRL	10									

Qualifiers: > Greater than Result value

BRL Below reporting limit

J Estimated value detected below Reporting Limit
Rpt Lim Reporting Limit

< Less than Result value

E Estimated (value above quantitation range)

N Analyte not NELAC certified
S Spike Recovery outside limits due to matrix

B Analyte detected in the associated method blank

H Holding times for preparation or analysis exceeded

R RPD outside limits due to matrix

Analytical Environmental Services, Inc

Client: Tetra Tech EM Inc.
 Project Name: DHM Adhesives Fire
 Workorder: 1909DD73

ANALYTICAL QC SUMMARY REPORT

Date: 19-Sep-19

Sample ID: MB-285091	Client ID: TestCode: TCL-SEMIVOLATILE ORGANICS	Client ID: SW8270E	Units: ug/L	Prep Date: 09/17/2019	Run No: 407347	
Analyte	Result	RPT Limit	SPK value	SPK RefVal	Analysis Date: 09/18/2019	Seq No: 9159243
Anthracene	BRL	10				
Atrazine	BRL	10				
Benz(a)anthracene	BRL	10				
Benzaldehyde	BRL	10				
Benzo(a)pyrene	BRL	10				
Benzo(b)fluoranthene	BRL	10				
Benzo(g,h,i)perylene	BRL	10				
Benzo(k)fluoranthene	BRL	10				
Bis(2-chloroethoxy)methane	BRL	10				
Bis(2-chloroethyl)ether	BRL	10				
Bis(2-chloroisopropyl)ether	BRL	10				
Bis(2-ethylhexyl)phthalate	BRL	10				
Butyl benzyl phthalate	BRL	10				
Caprolactam	BRL	10				
Carbazole	BRL	10				
Chrysene	BRL	10				
Di-n-butyl phthalate	BRL	10				
Di-n-octyl phthalate	BRL	10				
Dibenz(a,h)anthracene	BRL	10				
Dibenzofuran	BRL	10				
Diethyl phthalate	BRL	10				
Dimethyl phthalate	BRL	10				
Fluoranthene	BRL	10				
Fluorene	BRL	10				
Hexachlorobenzene	BRL	10				
Hexachlorobutadiene	BRL	10				
Hexachlorocyclopentadiene	BRL	10				

Qualifiers: > Greater than Result value

BRL Below reporting limit

J Estimated value detected below Reporting Limit

Rept Lim Reporting Limit

< Less than Result value

E Estimated (value above quantitation range)

N Analyte not NELAC certified

S Spike Recovery outside limits due to matrix

B Analyte detected in the associated method blank

H Holding times for preparation or analysis exceeded

R RPD outside limits due to matrix

Analytical Environmental Services, Inc

Date: 19-Sep-19

ANALYTICAL QC SUMMARY REPORT

Client: Tetra Tech EM Inc.
 Project Name: DHM Adhesives Fire
 Workorder: 1909D73

BatchID: 285091

Sample ID:	MB-285091	Client ID:	TCL-SEMI VOLATILE ORGANICS	SW8270E	Units:	ug/L	Prep Date:	09/17/2019	Run No:	407347	
SampleType:	MLBK	TestCode:			BatchID:	285091	Analysis Date:	09/18/2019	Seq No:	9159243	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Hexachloroethane	BRL	10									
Indeno[1,2,3-cd]pyrene	BRL	10									
Isophorone	BRL	10									
N-Nitrosodi-n-propylamine	BRL	10									
N-Nitrosodiphenylamine	BRL	10									
Naphthalene	BRL	10									
Nitrobenzene	BRL	10									
Pentachlorophenol	BRL	25									
Phenanthrene	BRL	10									
Phenol	BRL	10									
Pyrene	BRL	10									
Surr: 2,4,6-Tribromophenol	106.5	0	100.0			106	47				
Surr: 2-Fluorobiphenyl	33.90	0	50.00			67.8	47.4				
Surr: 2-Fluorophenol	57.14	0	100.0			57.1	26.2				
Surr: 4-Terphenyl-d14	38.71	0	50.00			77.4	45				
Surr: Nitrobenzene-d5	34.14	0	50.00			68.3	41.9				
Surr: Phenol-d5	41.60	0	100.0			41.6	17.8				

Sample ID:	LCS-285091	Client ID:	TCL-SEMI VOLATILE ORGANICS	SW8270E	Units:	ug/L	Prep Date:	09/17/2019	Run No:	407347	
SampleType:	LCS	TestCode:			BatchID:	285091	Analysis Date:	09/18/2019	Seq No:	9159928	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dinitrotoluene	40.42	10	40.00			101	60.1				
2-Chlorophenol	32.78	10	40.00			82.0	50.6				
4-Chloro-3-methylphenol	41.19	10	40.00			103	59.5				
4-Nitrophenol	23.90	25	40.00			59.8	20				
Acenaphthene	35.99	10	40.00			90.0	60.5				
N-Nitrosodi-n-propylamine	34.18	10	40.00			85.4	62.3				

Qualifiers: > Greater than Result Value
 BRL Below reporting limit
 J Estimated value detected below Reporting Limit
 Rpt Lim Reporting Limit

< Less than Result value
 E Estimated (value above quantitation range)
 N Analyte not NELAC certified
 S Spike Recovery outside limits due to matrix

B Analyte detected in the associated method blank
 H Holding times for preparation or analysis exceeded
 R RPD outside limits due to matrix

Analytical Environmental Services, Inc

Client: Tetra Tech EM Inc.
 Project Name: DHM Adhesives Fire
 Workorder: 1909D73

Date: 19-Sep-19
ANALYTICAL QC SUMMARY REPORT

BatchID: 285091

Sample ID:	LCS-285091	Client ID:	TestCode:	TCL-SEMIVOLATILE ORGANICS	SW8270E	Units:	ug/L	BatchID: 285091	Prep Date:	09/17/2019	Analysis Date:	09/18/2019	Run No:	407347
Analyte		Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual		
Pentachlorophenol		20.46	25	40.00		51.2	50.9	120				J		
Phenol		18.74	10	40.00		46.8	20.1	120						
Pyrene		42.65	10	40.00		107	68.8	139						
Surr: 2,4,6-Tribromophenol		124.4	0	100.0		124	47	127						
Surr: 2-Fluorobiphenyl		42.14	0	50.00		84.3	47.4	119						
Surr: 2-Fluorophenol		59.85	0	100.0		59.8	26.2	120						
Surr: 4-Terphenyl-d14		47.99	0	50.00		96.0	45	133						
Surr: Nitrobenzene-d5		37.60	0	50.00		75.2	41.9	121						
Surr: Phenol-d5		47.55	0	100.0		47.6	17.8	120						
Sample ID: 1909D89-009BMS		Client ID:	TestCode:	TCL-SEMIVOLATILE ORGANICS	SW8270E	Units:	ug/L	BatchID: 285091	Prep Date:	09/18/2019	Analysis Date:	09/18/2019	Run No:	407347
Analyte		Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual		
2,4-Dinitrotoluene		35.30	10	40.00		88.2	50.3	123						
2-Chlorophenol		30.25	10	40.00		75.6	50.8	120						
4-Chloro-3-methylphenol		34.58	10	40.00		86.4	47.1	124						
4-Nitrophenol		8.340	25	40.00		20.8	21.8	120						
Acenaphthene		32.59	10	40.00		81.5	44.7	119						
N-Nitrosod-n-propylamine		31.78	10	40.00		79.4	52.1	120						
Pentachlorophenol		21.51	25	40.00		53.8	40	120						
Phenol		15.07	10	40.00		37.7	31.5	120						
Pyrene		37.05	10	40.00		92.6	51	129				J		
Surr: 2,4,6-Tribromophenol		105.0	0	100.0		105	47	127						
Surr: 2-Fluorobiphenyl		34.35	0	50.00		68.7	47.4	119						
Surr: 2-Fluorophenol		48.65	0	100.0		48.6	26.2	120						
Surr: 4-Terphenyl-d14		38.34	0	50.00		76.7	45	133						
Surr: Nitrobenzene-d5		33.52	0	50.00		67.0	41.9	121						

Qualifiers: > Greater than Result value
 BRL Below reporting limit
 J Estimated value detected below Reporting Limit
 Rpt Lim. Reporting Limit

< Less than Result value
 E Estimated value above quantitation range
 N Analyte not NEIAC certified
 S Spike Recovery outside limits due to matrix

B Analyte detected in the associated method blank
 H Holding times for preparation or analysis exceeded
 R RPD outside limits due to matrix

Analytical Environmental Services, Inc

Client: Tetra Tech EM Inc.
 Project Name: DHM Adhesives Fire
 Workorder: 1909D73

ANALYTICAL QC SUMMARY REPORT

Date: 19-Sep-19

Sample ID: 1909D89-009BMS	Client ID: TestCode: TCL-SEMOVATILE ORGANICS	Client ID: TestCode: TCL-SEMOVATILE ORGANICS	Units: ug/L	Prep Date: 09/18/2019	Run No: 407347						
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: Phenol-d5	36.86	0	100.0			36.9	17.8	120			
Sample ID: 1909D89-009BMSD	Client ID: TestCode: TCL-SEMOVATILE ORGANICS	Client ID: TestCode: TCL-SEMOVATILE ORGANICS	Units: ug/L	Prep Date: 09/18/2019	Run No: 407347						
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dinitrotoluene	38.12	10	40.00			95.3	50.3	123	35.30	7.68	21.7
2-Chlorophenol	33.08	10	40.00			82.7	50.8	120	30.25	8.94	24.8
4-Chloro-3-methylphenol	37.35	10	40.00			93.4	47.1	124	34.58	7.70	20.7
4-Nitrophenol	22.05	25	40.00			55.1	21.8	120	8.340	0	38.3 J
Acenaphthene	34.84	10	40.00			87.1	44.7	119	32.59	6.67	20.5
N-Nitrosodi-n-propylamine	33.24	10	40.00			83.1	52.1	120	31.78	4.49	29.2
Pentachlorophenol	23.64	25	40.00			59.1	40	120	21.51	0	30.7 J
Phenol	16.45	10	40.00			41.1	31.5	120	15.07	8.76	28.5
Pyrene	39.48	10	40.00			98.7	51	129	37.05	6.35	24.8
Surr: 2,4,6-Tribromopheno	107.1	0	100.0			107	47	127	105.0	0	0
Surr: 2-Fluorobiphenyl	36.32	0	50.00			72.6	47.4	119	34.35	0	0
Surr: 2-Fluorophenol	100.0	0	100.0			100	26.2	120	48.65	0	0
Surr: 4-Terphenyl-d14	39.72	0	50.00			79.4	45	133	38.34	0	0
Surr: Nitrobenzene-d5	35.02	0	50.00			70.0	41.9	121	33.52	0	0
Surr: Phenol-d5	100.0	0	100.0			100	17.8	120	36.86	0	0

Qualifiers:	>	Greater than Result value	<	Less than Result value
BRL.	Below reporting limit	E	Estimated (value above quantitation range)	B Analyte detected in the associated method blank
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	H Holding times for preparation or analysis exceeded
Rpt Lim. Reporting Limit		S	Spike Recovery outside limits due to matrix	R RPD outside limits due to matrix

Analytical Environmental Services, Inc

Client: Tetra Tech EM Inc.
 Project Name: DHM Adhesives Fire
 Workorder: 1909D73

ANALYTICAL QC SUMMARY REPORT

Date: 19-Sep-19

BatchID: 285138

Sample ID:	MB-285138	Client ID:		Units:	ug/L	Prep Date:	09/17/2019	Run No.:	407217			
Sample Type:	MBLK	TestCode:	TCL VOLATILE ORGANICS SW3260D	BatchID:	285138	Analysis Date:	09/17/2019	Seq No.:	9157427			
Analyte		Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	BRL	5.0										
1,1,2,2-Tetrachloroethane	BRL	5.0										
1,1,2-Trichloroethane	BRL	5.0										
1,1-Dichloroethane	BRL	5.0										
1,1-Dichloroethene	BRL	5.0										
1,2,4-Trichlorobenzene	BRL	5.0										
1,2-Dibromo-3-chloropropane	BRL	5.0										
1,2-Dibromoethane	BRL	5.0										
1,2-Dichlorobenzene	BRL	5.0										
1,2-Dichloroethane	BRL	5.0										
1,2-Dichloropropane	BRL	5.0										
1,3-Dichlorobenzene	BRL	5.0										
1,4-Dichlorobenzene	BRL	5.0										
2-Butanone	BRL	50										
2-Hexanone	BRL	10										
4-Methyl-2-pentanone	BRL	10										
Acetone	BRL	50										
Benzene	BRL	5.0										
Bromodichloromethane	BRL	5.0										
Bromoform	BRL	5.0										
Bromomethane	BRL	5.0										
Carbon disulfide	BRL	5.0										
Carbon tetrachloride	BRL	5.0										
Chlorobenzene	BRL	5.0										
Chloroethane	BRL	10										
Chloroform	BRL	5.0										
Chloromethane	BRL	10										

Qualifiers:

> Greater than Result value

BRL Below reporting limit

J Estimated value detected below Reporting Limit

Rpt Lim. Reporting Limit

< Less than Result value

E Estimated (value above quantitation range)

N Analyte not NE/LAC certified

S Spike Recovery outside limits due to matrix

B Analyte detected in the associated method blank

H Holding times for preparation or analysis exceeded

R RPD outside limits due to matrix

Analytical Environmental Services, Inc

Client: Tetra Tech EM Inc.
 Project Name: DHM Adhesives Fire
 Workorder: 1909D73

Date: 19-Sep-19
ANALYTICAL QC SUMMARY REPORT

Sample ID:	MB-285138	Client ID:	TestCode:	TCL VOLATILE ORGANICS	SW8260D	Units:	ug/L	BatchID:	285138	Prep Date:	09/17/2019	Run No:	407217
Analyte		Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual	
cis-1,2-Dichloroethene	BRL	5.0											
cis-1,3-Dichloropropene	BRL	5.0											
Cyclohexane	BRL	5.0											
Dibromochloromethane	BRL	5.0											
Dichlorodifluoromethane	BRL	10											
Ethylbenzene	BRL	5.0											
Freon-113	BRL	10											
Isopropylbenzene	BRL	5.0											
m,p-Xylene	BRL	5.0											
Methyl acetate	BRL	5.0											
Methyl tert-butyl ether	BRL	5.0											
Methylcyclohexane	BRL	5.0											
Methylene chloride	BRL	5.0											
o-Xylene	BRL	5.0											
Styrene	BRL	5.0											
Tetrachloroethene	BRL	5.0											
Toluene	BRL	5.0											
trans-1,2-Dichloroethene	BRL	5.0											
trans-1,3-Dichloropropene	BRL	5.0											
Trichloroethene	BRL	5.0											
Trichlorofluoromethane	BRL	5.0											
Vinyl chloride	BRL	2.0											
Surr: 4-Bromofluorobenzene	54.15	0	50.00			108	64	125					
Surr: Dibromofluoromethane	54.47	0	50.00			109	76.4	125					
Surr: Toluene-d8	51.29	0	50.00			103	78.3	116					

Qualifiers: > Greater than Result value
 BRL Below reporting limit
 J Estimated value detected below Reporting Limit
 Rpt Lim Reporting Limit

< Less than Result value
 E Estimated (value above quantitation range)
 N Analyte not NELAC certified
 S Spike Recovery outside limits due to matrix

B Analyte detected in the associated method blank
 H Holding times for preparation or analysis exceeded
 R RPD outside limits due to matrix

Analytical Environmental Services, Inc

Client: Tetra Tech EM Inc.
 Project Name: DHM Adhesives Fire
 Workorder: 1909D73

Date: 19-Sep-19
ANALYTICAL QC SUMMARY REPORT

Sample ID: LCS-285138		Client ID: TestCode: TCL VOLATILE ORGANICS SW8260D		Units: ug/L BatchID: 285138		Prep Date: 09/17/2019 Analysis Date: 09/17/2019		Run No: 407217 Seq No: 9157428			
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	46.94	5.0	50.00		93.9	69	136				
Benzene	47.33	5.0	50.00		94.7	73.7	126				
Chlorobenzene	45.53	5.0	50.00		91.1	73.5	124				
Toluene	43.49	5.0	50.00		87.0	76.8	125				
Trichloroethene	42.67	5.0	50.00		85.3	70.9	124				
Surr: 4-Bromofluorobenzene	55.37	0	50.00		111	64	125				
Surr: Dibromofluoromethane	49.24	0	50.00		98.5	76.4	125				
Surr: Toluene-d8	55.32	0	50.00		111	78.3	116				

Sample ID: 1909C28-002AMS		Client ID: TestCode: TCL VOLATILE ORGANICS SW8260D		Units: ug/L BatchID: 285138		Prep Date: 09/17/2019 Analysis Date: 09/17/2019		Run No: 407217 Seq No: 9157431			
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	534.8	50	500.0		107	63.8	146				
Benzene	472.1	50	500.0		94.4	70.2	137				
Chlorobenzene	429.8	50	500.0		86.0	72.7	141				
Toluene	432.8	50	500.0		86.6	67	141				
Trichloroethene	428.5	50	500.0		85.7	69.3	141				
Surr: 4-Bromofluorobenzene	561.2	0	500.0		112	64	125				
Surr: Dibromofluoromethane	502.2	0	500.0		100	76.4	125				
Surr: Toluene-d8	543.5	0	500.0		109	78.3	116				

Sample ID: 1909C28-002ADUP		Client ID: TestCode: TCL VOLATILE ORGANICS SW8260D		Units: ug/L BatchID: 285138		Prep Date: 09/17/2019 Analysis Date: 09/17/2019		Run No: 407217 Seq No: 9157430			
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	BRL	50				0	0	0	0	20	
1,1,2,2-Tetrachloroethane	BRL	50				0	0	0	0	20	

Qualifiers:	>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
	BRL	Below reporting limit	J	Estimated value detected below Reporting Limit	H	Holding times for preparation or analysis exceeded
			N	Analyte not NELAC certified	R	RPD outside limits due to matrix
			S	Spike Recovery outside limits due to matrix		
Rpt Lim	Reporting Limit					

Analytical Environmental Services, Inc

Client: Tetra Tech EM Inc.
 Project Name: DHM Adhesives Fire
 Workorder: 1909D73

Date: 19-Sep-19
ANALYTICAL QC SUMMARY REPORT

Sample ID:	1909C28-002ADUP	Client ID:		TestCode:	TCL VOLATILE ORGANICS	sw8260D	Units:	ug/L	BatchID:	285138	Prep Date:	09/17/2019	Run No.:	407217	
Analyte		Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual		Seq No.:	9157430
1,1,2-Trichloroethane	BRL	50							0	0	0				
1,1-Dichloroethane	BRL	50							0	0	0				
1,1,1-Dichloroethene	BRL	50							0	0	0				
1,2,4-Trichlorobenzene	BRL	50							0	0	0				
1,2-Dibromo-3-chloropropane	BRL	50							0	0	0				
1,2-Dibromoethane	BRL	50							0	0	0				
1,2-Dichlorobenzene	BRL	50							0	0	0				
1,2-Dichloroethane	BRL	50							0	0	0				
1,2-Dichloropropane	BRL	50							0	0	0				
1,3-Dichlorobenzene	BRL	50							0	0	0				
1,4-Dichlorobenzene	BRL	50							0	0	0				
2-Butanone	BRL	500							0	0	0				
2-Hexanone	BRL	100							0	0	0				
4-Methyl-2-pentanone	BRL	100							0	0	0				
Acetone	BRL	500							0	0	0				
Benzene	BRL	50							0	0	0				
Bromodichloromethane	BRL	50							0	0	0				
Bromoform	BRL	50							0	0	0				
Bromomethane	BRL	50							0	0	0				
Carbon disulfide	BRL	50							0	0	0				
Carbon tetrachloride	BRL	50							0	0	0				
Chlorobenzene	BRL	50							0	0	0				
Chloroethane	BRL	100							0	0	0				
Chloroform	BRL	50							0	0	0				
Chloromethane	BRL	100							0	0	0				
cis-1,2-Dichloroethene	BRL	50							0	0	0				
cis-1,3-Dichloropropene	BRL	50							0	0	0				

Qualifiers: > Greater than Result value

BRL Below reporting limit

J Estimated value detected below Reporting Limit

Rpt Lim Reporting Limit

< Less than Result value

E Estimated (value above quantitation range)

N Analyte not NELAC certified

S Spike Recovery outside limits due to matrix

B Analyte detected in the associated method blank

H Holding times for preparation or analysis exceeded

R RPD outside limits due to matrix

Analytical Environmental Services, Inc

Client: Tetra Tech EM Inc.
 Project Name: DHM Adhesives Fire
 Workorder: 1909D73

Date: 19-Sep-19

ANALYTICAL QC SUMMARY REPORT

Sample ID: 1909C28-002ADUP		Client ID: TestCode: TCL VOLATILE ORGANICS SW8260D		Units: ug/L		Prep Date: 09/17/2019		Run No: 407217			
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyclohexane	BRL	50						0	0	0	
Dibromochloromethane	BRL	50						0	0	0	
Dichlorodifluoromethane	BRL	100						0	0	0	
Ethylbenzene	BRL	50						0	0	0	
Freron-113	BRL	100						0	0	0	
Isopropylbenzene	BRL	50						0	0	0	
m,p-Xylene	BRL	50						0	0	0	
Methyl acetate	BRL	50						0	0	0	
Methyl ter-butyl ether	BRL	50						0	0	0	
Methylcyclohexane	BRL	50						0	0	0	
Methylene chloride	BRL	50						0	0	0	
o-Xylene	BRL	50						0	0	0	
Styrene	BRL	50						0	0	0	
Tetrachloroethene	214.7	50						0	0	0	
Toluene	BRL	50						0	0	0	
trans-1,2-Dichloroethene	BRL	50						0	0	0	
trans-1,3-Dichloropropene	BRL	50						0	0	0	
Trichloroethene	BRL	50						0	0	0	
Trichlorofluoromethane	BRL	50						0	0	0	
Vinyl chloride	BRL	20						0	0	0	
Surr: 4-Bromofluorobenzene	515.2	0						0	0	0	
Surr: Dibromofluoromethane	530.1	0						64	125	521.0	
Surr: Toluene-d8	522.7	0						76.4	125	519.6	
								78.3	116	520.9	0

Qualifiers: > Greater than Result Value
 BRL Below reporting limit
 J Estimated value detected below Reporting Limit
 Rpt Lim. Reporting Limit

< Less than Result value
 E Estimated (value above quantitation range)
 N Analyte not NELAC certified
 S Spike Recovery outside limits due to matrix

B Analyte detected in the associated method blank
 H Holding times for preparation or analysis exceeded
 R RPD outside limits due to matrix